

Exhibit No. 6-F, Part I  
Docket No. R-2021-3027385  
Docket No. R-2021-3027386  
Witness: J. J. Spanos

AQUA PENNSYLVANIA, INC.

BRYN MAWR, PENNSYLVANIA

EAST NORRITON OPERATIONS

2021 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS  
RELATED TO WASTEWATER PLANT  
AS OF MARCH 31, 2021

*Prepared by:*



*Excellence Delivered **As Promised***

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RELATED TO WASTEWATER PLANT  
AS OF MARCH 31, 2021

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania



**Gannett Fleming**

*Excellence Delivered **As Promised***

August 13, 2021

Aqua Pennsylvania, Inc.  
762 Lancaster Avenue  
Bryn Mawr, PA 19010

Attention: William C. Packer  
Vice President, Regulatory Accounting & Regional Controller

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to wastewater plant as of March 31, 2021 for the East Norriton Operations. Summaries of the original cost, annual accruals and the book depreciation reserve are presented in Tables 1 and 2, beginning on page I-3 of the attached report.

A description of the methods and procedures upon which the study was based, as well as support for the service life estimates, is set forth in a companion report "2022 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of March 31, 2022".

Respectfully submitted,

GANNETT FLEMING VALUATION  
AND RATE CONSULTANTS, LLC

JOHN J. SPANOS  
President

JJS:mle

067880.100

Gannett Fleming Valuation and Rate Consultants, LLC

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## TABLE OF CONTENTS

<b>PART I. RESULTS OF STUDY</b> .....	I-1
Summary of Results .....	I-2
Detailed Tabulations of Depreciation Calculations .....	I-2
Table 1. Summary of Estimated Survivor Curve, Original Cost, Book Depreciation Reserve and Calculated Annual Depreciation Accruals Related to Wastewater Plant as of March 31, 2021 .....	I-3
Table 2. Amortization of Experienced Net Salvage .....	I-4
<b>PART II. DETAILED DEPRECIATION CALCULATIONS</b> .....	II-1
Cumulative Depreciated Original Cost.....	II-2
Utility Plant in Service .....	II-4
<b>PART III. EXPERIENCED NET SALVAGE</b> .....	III-1

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## **PART I. RESULTS OF STUDY**

# **AQUA PENNSYLVANIA, INC.**

## **WASTEWATER ASSETS**

### **DEPRECIATION STUDY**

#### **PART I. RESULTS OF STUDY**

##### **SUMMARY OF RESULTS**

Table 1 summarizes the results of the depreciation study, which sets forth the book reserve and the calculated annual depreciation related to original cost as of March 31, 2021, and the annual amortization of negative salvage for the East Norriton Operations system. Table 2 presents the calculation of the amortization of experienced net salvage, by account, based on the five-year period, 2016-2020.

##### **DETAILED TABULATIONS OF DEPRECIATION CALCULATIONS**

The supporting data for the depreciation calculations are presented in account sequence in the section beginning on page II-2. The original cost, calculated accrued depreciation, allocated book reserve, future accruals, remaining life and annual accrual are shown for each vintage of each account or subaccount. The amounts of regular retirements, gross salvage, and cost of removal are set forth by account for the years 2016 through 2020 on page III-2.

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF MARCH 31, 2021

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	ORIGINAL COST AS OF MARCH 31, 2021 (3)	BOOK DEPRECIATION RESERVE (4)	FUTURE ACCRUALS (5)	CALCULATED		COMPOSITE REMAINING LIFE (8)=(5)/(6)
					ANNUAL ACCRUAL AMOUNT (6)	RATE (7)=(6)/(3)	
INTANGIBLE PLANT							
351.00 ORGANIZATION	NONDEPR.	340,540.49					
<b>TOTAL INTANGIBLE PLANT</b>		<b>340,540.49</b>					
NONDEPRECIABLE PLANT							
353.30 LAND AND LAND RIGHTS - PUMPING	NONDEPR.	170.54					
<b>TOTAL NONDEPRECIABLE PLANT</b>		<b>170.54</b>					
DEPRECIABLE PLANT							
354.00 STRUCTURES AND IMPROVEMENTS PUMPING	60-S1	4,607,062.02	2,797,562	1,809,500	66,905	1.45	27.0
<b>TOTAL ACCOUNT 354</b>		<b>4,607,062.02</b>	<b>2,797,562</b>	<b>1,809,500</b>	<b>66,905</b>		
355.00 POWER GENERATING EQUIPMENT PUMPING	25-R2.5	1,063,342.47	761,274	302,068	40,922	3.85	7.4
<b>TOTAL ACCOUNT 355</b>		<b>1,063,342.47</b>	<b>761,274</b>	<b>302,068</b>	<b>40,922</b>		
360.00 COLLECTION MAINS - FORCE	75-R2.5	2,422,461.23	1,369,924	1,052,537	34,388	1.42	30.6
361.00 COLLECTION MAINS - GRAVITY	75-R2.5	29,397,175.29	17,157,367	12,239,809	405,086	1.38	30.2
363.00 SERVICES	70-R4	6,807,276.05	4,600,008	2,207,268	93,836	1.38	23.5
364.00 METERS	25-S2.5	289,570.95	190,485	99,086	19,747	6.82	5.0
371.30 PUMPING EQUIPMENT PUMPING	25-L0.5	4,400,839.12	2,167,980	2,232,859	219,152	4.98	10.2
<b>TOTAL ACCOUNT 371.3</b>		<b>4,400,839.12</b>	<b>2,167,980</b>	<b>2,232,859</b>	<b>219,152</b>		
391.00 TRANSPORTATION EQUIPMENT	15-L3	68,117.42	68,117	0	0	*	-
394.00 LABORATORY EQUIPMENT	25-SQ	40,789.79	27,837	12,953	1,313	**	9.9
396.00 COMMUNICATION EQUIPMENT - GENERAL	15-SQ	28,980.85	16,039	12,942	2,071	**	6.2
397.00 MISCELLANEOUS EQUIPMENT	25-SQ	12,557.09	9,418	3,139	177	**	17.7
<b>TOTAL DEPRECIABLE PLANT</b>		<b>49,138,172.28</b>	<b>29,166,010</b>	<b>19,972,161</b>	<b>883,597</b>		
<b>TOTAL WASTEWATER PLANT IN SERVICE</b>		<b>49,478,883.31</b>	<b>29,166,010</b>	<b>19,972,161</b>	<b>883,597</b>		

\* USE DEPRECIATION RATE OF 3.87% FOR ALL FUTURE ADDITIONS TO ACCOUNT 391.00 TRANSPORTATION EQUIPMENT

\*\* ACCRUALS CALCULATED FOR EACH ASSET BY THE COMPANY'S PROPERTY RECORD SYSTEM USING THE AMORTIZATION PERIOD SET FORTH IN COLUMN 2.

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

TABLE 2. AMORTIZATION OF EXPERIENCED NET SALVAGE

ACCOUNT (1)	2016		2017		2018		2019		2020		NET SALVAGE (12)*	SALVAGE ACCRUAL (13)=(12)/5
	GROSS SALVAGE (2)	COST OF REMOVAL (3)	GROSS SALVAGE (4)	COST OF REMOVAL (5)	GROSS SALVAGE (6)	COST OF REMOVAL (7)	GROSS SALVAGE (8)	COST OF REMOVAL (9)	GROSS SALVAGE (10)	COST OF REMOVAL (11)		
354.20	-	-	-	-	-	-	-	-	-	-	-	0
354.30	-	-	-	-	-	-	-	-	-	-	-	0
354.40	-	-	-	-	-	-	-	-	-	-	-	0
361.00	-	-	-	-	-	-	-	-	-	-	-	0
363.00	-	-	-	-	-	-	-	-	-	-	-	0
371.30	-	-	-	-	-	-	-	-	-	-	-	0
380.00	-	-	-	-	-	-	-	-	-	-	-	0
<b>TOTAL</b>	-	-	-	-	-	-	-	-	-	-	-	<b>0</b>

\* COLUMN (12) EQUALS THE SUMMATION OF COLUMNS (2) THROUGH (11).



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## PART II. DETAILED DEPRECIATION CALCULATIONS

**CUMULATIVE DEPRECIATED ORIGINAL COST**

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	PCT OF COL 4 TOTAL (6)
1960	2,924,384	2,362,755	561,629	561,629	2.8
1963	16,690,205	11,082,224	5,607,981	6,169,610	30.9
1970	5,968,763	3,632,030	2,336,733	8,506,342	42.6
1971	6,028,946	4,242,162	1,786,784	10,293,126	51.5
1975	3,347,111	2,032,887	1,314,224	11,607,350	58.1
1978	317,893	169,419	148,474	11,755,824	58.9
1979	465,252	244,012	221,240	11,977,064	60.0
1980	1,001,132	516,397	484,735	12,461,799	62.4
1981	92,574	46,579	45,995	12,507,794	62.6
1983	163,136	79,117	84,019	12,591,813	63.1
1985	593,986	298,824	295,162	12,886,975	64.5
1986	836,297	378,923	457,374	13,344,349	66.8
1990	778,330	357,846	420,484	13,764,834	68.9
1993	127,480	47,800	79,680	13,844,513	69.3
1994	1,214,880	524,048	690,832	14,535,345	72.8
1996	4,077,259	2,064,788	2,012,471	16,547,816	82.9
1998	2,621	2,621	0	16,547,816	82.9
1999	105,264	73,908	31,356	16,579,172	83.0
2000	428,390	140,947	287,443	16,866,615	84.5
2001	6,755	3,970	2,785	16,869,400	84.5
2003	425,124	110,452	314,672	17,184,071	86.0
2004	1,329	1,002	327	17,184,398	86.0
2005	28,681	19,257	9,424	17,193,822	86.1
2006	202,834	48,549	154,285	17,348,107	86.9
2007	1,208,122	251,138	956,984	18,305,092	91.7
2008	2,148	1,233	915	18,306,007	91.7
2009	167,620	36,623	130,997	18,437,003	92.3
2010	28,588	6,058	22,530	18,459,534	92.4
2011	16,285	4,892	11,393	18,470,927	92.5
2012	1,769,469	361,246	1,408,223	19,879,150	99.5
2013	19,558	5,055	14,503	19,893,653	99.6
2014	28,892	7,347	21,545	19,915,198	99.7
2015	33,393	6,957	26,436	19,941,634	99.9
2016	12,976	2,337	10,639	19,952,273	99.9
2018	22,496	2,607	19,889	19,972,161	100.0
SUBTOTAL	49,138,172	29,166,010	19,972,161		
NONDEPRECIABLE	340,711				
TOTAL	49,478,883	29,166,010	19,972,161		



## UTILITY PLANT IN SERVICE

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 354.3 STRUCTURES AND IMPROVEMENTS - PUMPING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 60-S1						
NET SALVAGE PERCENT.. 0						
1960	2,271,711.28	1,780,340	1,836,582	435,129	16.77	25,947
1975	779,114.04	523,954	540,506	238,608	22.28	10,710
1994	440,663.71	207,464	214,018	226,646	30.07	7,537
2012	1,115,572.99	200,134	206,456	909,117	40.03	22,711
	4,607,062.02	2,711,892	2,797,562	1,809,500		66,905
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						27.0 1.45

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 355.3 POWER GENERATING EQUIPMENT - PUMPING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 25-R2.5						
NET SALVAGE PERCENT.. 0						
1960	264,951.85	264,952	264,952			
1975	102,167.54	102,168	102,168			
1985	19,919.30	18,656	15,052	4,867	2.42	2,011
1994	51,095.13	43,329	34,958	16,137	4.79	3,369
1996	410,562.12	335,347	270,557	140,005	5.55	25,226
2007	40,884.01	22,319	18,007	22,877	11.44	2,000
2009	35,958.59	17,282	13,943	22,016	12.70	1,734
2012	137,803.93	51,608	41,637	96,167	14.61	6,582
	1,063,342.47	855,661	761,274	302,068		40,922
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.4						3.85

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 360 COLLECTION MAINS - FORCE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R2.5						
NET SALVAGE PERCENT.. 0						
1963	1,420,455.97	992,615	927,285	493,171	24.89	19,814
1975	646,731.85	381,701	356,579	290,153	31.77	9,133
1994	178,664.79	67,857	63,391	115,274	43.68	2,639
2012	176,608.62	24,266	22,669	153,940	54.94	2,802
	2,422,461.23	1,466,439	1,369,924	1,052,537		34,388
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						30.6 1.42

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 361 COLLECTION MAINS - GRAVITY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R2.5						
NET SALVAGE PERCENT.. 0						
1963	15,269,748.83	10,670,500	10,154,939	5,114,810	24.89	205,497
1970	5,968,762.75	3,816,427	3,632,030	2,336,733	28.62	81,647
1975	1,654,857.39	976,697	929,506	725,351	31.77	22,831
1978	317,892.76	178,020	169,419	148,474	33.59	4,420
1979	465,252.06	256,400	244,012	221,240	34.01	6,505
1980	1,001,131.92	542,614	516,397	484,735	34.44	14,075
1981	92,573.94	48,944	46,579	45,995	35.44	1,298
1983	163,135.97	83,134	79,117	84,019	36.33	2,313
1985	407,293.25	198,026	188,458	218,835	37.78	5,792
1986	836,297.25	398,161	378,923	457,374	38.24	11,961
1993	127,479.59	50,227	47,800	79,680	42.68	1,867
1994	460,362.85	174,846	166,398	293,965	43.68	6,730
1996	220,599.76	78,622	74,823	145,777	44.69	3,262
2000	393,491.88	119,228	113,468	280,024	47.74	5,866
2003	420,527.90	111,230	105,856	314,672	49.36	6,375
2006	188,040.71	41,877	39,854	148,187	51.48	2,879
2007	1,164,936.70	243,472	231,708	933,229	52.04	17,933
2009	131,660.99	23,831	22,680	108,981	53.18	2,049
2010	21,860.36	3,642	3,466	18,394	53.77	342
2012	91,268.43	12,540	11,934	79,335	54.94	1,444
	29,397,175.29	18,028,438	17,157,367	12,239,809		405,086
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 30.2 1.38						



AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 363 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R4						
NET SALVAGE PERCENT.. 0						
1971	6,028,945.65	4,199,161	4,242,162	1,786,784	21.68	82,416
1990	778,330.40	354,218	357,846	420,485	36.82	11,420
	6,807,276.05	4,553,379	4,600,008	2,207,268		93,836
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						23.5 1.38

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 364 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 25-S2.5						
NET SALVAGE PERCENT.. 0						
1960	31,054.84	31,055	31,055			
1975	23,151.99	22,879	18,301	4,851	0.55	4,851
1985	7,424.33	6,928	5,542	1,882	2.56	735
1994	15,379.54	13,123	10,497	4,883	4.60	1,062
1996	159,924.93	132,194	105,743	54,182	5.19	10,440
2001	6,754.59	4,963	3,970	2,785	7.13	391
2006	6,109.96	3,668	2,934	3,176	9.82	323
2010	5,684.19	2,609	2,087	3,597	12.67	284
2012	34,086.58	12,946	10,356	23,731	14.29	1,661
	289,570.95	230,365	190,485	99,086		19,747
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.0						6.82

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 371.3 PUMPING EQUIPMENT - PUMPING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 25-L0.5						
NET SALVAGE PERCENT.. 0						
1960	356,665.87	327,170	230,166	126,500	5.48	23,084
1975	141,088.47	121,999	85,827	55,261	7.16	7,718
1985	159,349.06	127,607	89,772	69,577	8.89	7,826
1994	68,714.13	49,447	34,786	33,928	10.42	3,256
1996	3,286,172.14	2,293,748	1,613,665	1,672,507	10.71	156,163
1999	58,457.93	38,524	27,102	31,356	11.25	2,787
2000	13,586.49	8,767	6,168	7,418	11.41	650
2005	3,397.12	1,910	1,344	2,053	12.26	167
2011	16,285.21	6,954	4,892	11,393	13.08	871
2012	183,738.53	73,146	51,458	132,281	13.23	9,999
2013	19,557.73	7,186	5,055	14,503	13.35	1,086
2014	24,960.83	8,307	5,844	19,117	13.53	1,413
2015	33,393.18	9,888	6,957	26,436	13.67	1,934
2016	12,976.04	3,322	2,337	10,639	13.80	771
2018	22,496.39	3,705	2,607	19,890	13.94	1,427
	4,400,839.12	3,081,680	2,167,980	2,232,859		219,152
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.2						4.98

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 391 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 15-L3						
NET SALVAGE PERCENT.. 0						
1999	46,805.62	41,535	46,806			
2000	21,311.80	18,618	21,311			
	68,117.42	60,153	68,117			

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 0.0 0.00

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 394 LABORATORY EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
2004	1,329.15	891	1,002	327	8.25	40
2005	25,283.61	15,929	17,913	7,371	9.25	797
2006	8,683.64	5,123	5,761	2,923	10.25	285
2007	2,301.36	1,266	1,423	878	11.25	78
2008	2,148.16	1,096	1,233	915	12.25	75
2010	1,043.87	449	505	539	14.25	38
	40,789.79	24,754	27,837	12,953		1,313
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.9						3.22

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 396 COMMUNICATION EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2012	28,980.85	16,905	16,039	12,942	6.25	2,071
	28,980.85	16,905	16,039	12,942		2,071
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						6.2 7.15

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 397 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
1998	2,621.08	2,385	2,621			
2003	4,595.70	3,263	4,596			
2012	1,409.31	493	698	711	16.25	44
2014	3,931.00	1,061	1,503	2,428	18.25	133
	12,557.09	7,202	9,418	3,139		177
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 17.7 1.41						

---

## PART III. EXPERIENCED NET SALVAGE



AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

EXPERIENCED RETIREMENTS BY ACCOUNT AND ASSOCIATED  
COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2016 TRANSACTION YEAR				
2017 TRANSACTION YEAR				
2018 TRANSACTION YEAR				
2019 TRANSACTION YEAR				
2020 TRANSACTION YEAR				
TOTAL				

Exhibit No. 6-F, Part II  
Docket No. R-2021-3027385  
Docket No. R-2021-3027386  
Witness: J. J. Spanos

AQUA PENNSYLVANIA, INC.

BRYN MAWR, PENNSYLVANIA

EAST NORRITON OPERATIONS

2022 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS

RELATED TO WASTEWATER PLANT

AS OF MARCH 31, 2022

*Prepared by:*



***Gannett Fleming***

*Excellence Delivered* ***As Promised***

Exhibit No. 6-F, Part II  
Docket No. R-2021-3027385  
Docket No. R-2021-3027386  
Witness: J. J. Spanos

AQUA PENNSYLVANIA, INC.

Bryn Mawr, Pennsylvania

EAST NORRITON OPERATIONS

2022 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS  
RELATED TO WASTEWATER PLANT  
AS OF MARCH 31, 2022

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania



**Gannett Fleming**

*Excellence Delivered **As Promised***

August 13, 2021

Aqua Pennsylvania, Inc.  
762 Lancaster Avenue  
Bryn Mawr, PA 19010

Attention: William C. Packer  
Vice President, Regulatory Accounting & Regional Controller

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to wastewater plant as of March 31, 2022 for the East Norriton Operations. The results of our study as of March 31, 2022, are presented in the attached report. The results of our study as of March 31, 2021, are presented in our report, "2021 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of March 31, 2021." The same methods, procedures and estimates are used in both studies.

The attached report sets forth a description of the methods and procedures upon which the studies were based, the estimates of survivor curves, and the calculated annual depreciation as of March 31, 2022.

Respectfully submitted,

GANNETT FLEMING VALUATION  
AND RATE CONSULTANTS, LLC

JOHN J. SPANOS  
President

JJS:mle

067880.100

Gannett Fleming Valuation and Rate Consultants, LLC

207 Senate Avenue • Camp Hill, PA 17011-2316

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[www.gfvrc.com](http://www.gfvrc.com)

## TABLE OF CONTENTS

<b>PART I. INTRODUCTION .....</b>	<b>I-1</b>
Scope .....	I-2
Basis of the Study .....	I-3
 <b>PART II. ESTIMATION OF SURVIVOR CURVES .....</b>	 <b>II-1</b>
Survivor Curves.....	II-2
Iowa Type Curves.....	II-3
Retirement Rate Method of Analysis .....	II-9
Schedules of Annual Transactions in Plant Records .....	II-10
Schedule of Plant Exposed to Retirement .....	II-13
Original Life Table .....	II-15
Smoothing the Original Survivor Curve .....	II-17
 <b>PART III. SERVICE LIFE CONSIDERATIONS .....</b>	 <b>III-1</b>
Judgments.....	III-2
 <b>PART IV. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION .....</b>	 <b>IV-1</b>
Book Reserve.....	IV-2
Calculation of Depreciation .....	IV-2
Group Depreciation Procedures .....	IV-2
Remaining Life Annual Accruals.....	IV-3
Equal Life Group Procedure .....	IV-4
Amortization of General Plant Accounts.....	IV-5
Net Salvage.....	IV-6
 <b>PART V. RESULTS OF THE STUDY .....</b>	 <b>V-1</b>
Description of Summary Tabulations.....	V-2
Description of Detailed Tabulations.....	V-2
Table 1. Summary of Estimated Survivor Curve, Original Cost, Book Depreciation Reserve and Calculated Annual Depreciation Accruals Related to Wastewater Plant as of March 31, 2022 .....	   V-4
Table 2. Bringforward to March 31, 2022 of Book Reserve as of March 31, 2021.....	 V-5
Table 3. Calculation of Depreciation Accruals for the Twelve Months Ended March 31, 2022 .....	 V-6
Table 4. Amortization of Experienced and Estimated Net Salvage .....	V-7

TABLE OF CONTENTS, cont

<b>PART VI. SERVICE LIFE STATISTICS.....</b>	<b>VI-1</b>
<b>PART VII. DETAILED DEPRECIATION CALCULATIONS .....</b>	<b>VII-1</b>
Cumulative Depreciated Original Cost.....	VII-2
Utility Plant in Service.....	VII-4
<b>PART VIII. EXPERIENCED AND ESTIMATED NET SALVAGE.....</b>	<b>VIII-1</b>

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## PART I. INTRODUCTION

# **AQUA PENNSYLVANIA, INC.**

## **DEPRECIATION STUDY**

### **PART I. INTRODUCTION**

#### **SCOPE**

This report sets forth the results of the depreciation study for Aqua Pennsylvania, Inc. to determine the annual depreciation accrual rates and amounts applicable to the original cost of wastewater plant as of March 31, 2022 for the East Norriton Operations system. The rates and amounts are based on the straight line remaining life method of depreciation. This report also describes the concepts, methods and judgments which underlie the recommended annual depreciation accrual rates related to wastewater plant in service as of March 31, 2022.

Part I, Introduction, contains statements with respect to the basis of the study and the development of net original cost. Part II, Estimation of Survivor Curves, presents descriptions of the considerations and methods used in the service life study. Part III, Service Life Considerations, presents the results of the average service life analysis. Part IV, Calculation of Annual and Accrued Depreciation, describes the procedures used in the calculation of group depreciation. Part V, Results of Study, presents summaries by depreciable group of annual depreciation accrual rates and amounts, as well as composite remaining lives. Part VI, Service Life Statistics presents the statistical analysis of service life estimates, Part VII, Detailed Depreciation Calculations presents the detailed tabulations of annual depreciation and Part VIII, Experienced and Estimated Net Salvage presents the cost of removal and gross salvage recorded for the period 2017-2021.



## **BASIS OF THE STUDY**

The purpose of the depreciation study was to determine the annual depreciation accruals applicable to the original cost of wastewater plant in service as of March 31, 2022. For most accounts, the straight line remaining life method using attained ages, the book depreciation reserve and estimated survivor curves, was the basis for the calculation of annual depreciation. For certain accounts, the annual and accrued amortization amounts were based on the age of the property and the selected amortization period.

The survivor curve estimates were based on judgment which incorporated (1) analyses of historical data related to wastewater property for all wastewater systems; (2) consideration of the character, use and location of the property; (3) probable future events and management plans; and (4) a general knowledge of wastewater property lives. The use of Iowa type survivor curves is a generally-accepted method of estimating average service life when the actual lives of individual property units are dispersed.

---

## **PART II. ESTIMATION OF SURVIVOR CURVES**

## **PART II. ESTIMATION OF SURVIVOR CURVES**

The calculation of annual depreciation based on the straight line method requires the estimation of survivor curves and the selection of group depreciation procedures. The estimation of survivor curves is discussed below and the development of net salvage is discussed in later sections of this report.

### **SURVIVOR CURVES**

The use of an average service life for a property group implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units or by constructing a survivor curve by plotting the number of units which survive at successive ages.

The survivor curve graphically depicts the amount of property existing at each age throughout the life of an original group. From the survivor curve, the average life of the group, the remaining life expectancy, the probable life, and the frequency curve can be calculated. In Figure 1, a typical smooth survivor curve and the derived curves are illustrated. The average life is obtained by calculating the area under the survivor curve, from age zero to the maximum age, and dividing this area by the ordinate at age zero. The remaining life expectancy at any age can be calculated by obtaining the area under the curve, from the observation age to the maximum age, and dividing this area by the percent surviving at the observation age. For example, in Figure 1, the remaining life at age 30 is equal to the crosshatched area under the survivor curve divided by 29.5 percent surviving at age 30. The probable life at any age is developed by adding the age and remaining life. If the probable life of the property is calculated for each year of age, the probable life curve shown in the chart can be developed. The frequency curve presents the number of units retired in each age interval. It is derived by obtaining the differences between the amount of property surviving at the beginning and at the end of each interval.

This study has incorporated the use of Iowa curves developed from a retirement rate analysis of historical retirement history. A discussion of the concepts of survivor curves and of the development of survivor curves using the retirement rate method is presented below.

### **Iowa Type Curves**

The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the Iowa type curves. There are four families in the Iowa system, labeled in accordance with the location of the modes of the retirements (or the portion of the frequency curve with the highest level of retirements) in relationship to the average life and the relative height of the modes. The left moded curves, presented in Figure 2, are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical moded curves, presented in Figure 3, are those in which the greatest frequency of retirement occurs at average service life. The right moded curves, presented in Figure 4, are those in which the greatest frequency occurs to the right of, or after, average service life. The origin moded curves, presented in Figure 5, are those in which the greatest frequency of retirement occurs at the origin, or immediately after age zero. The letter designation of each family of curves (L, S, R or O) represents the location of the mode of the associated frequency curve with respect to the average service life. The numbers represent the relative heights of the modes of the frequency curves within each family. A higher number designates a higher mode curve.

The Iowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves, which constitute three of the four families, was published in 1935 in the form of the Experiment Station's Bulletin 125.

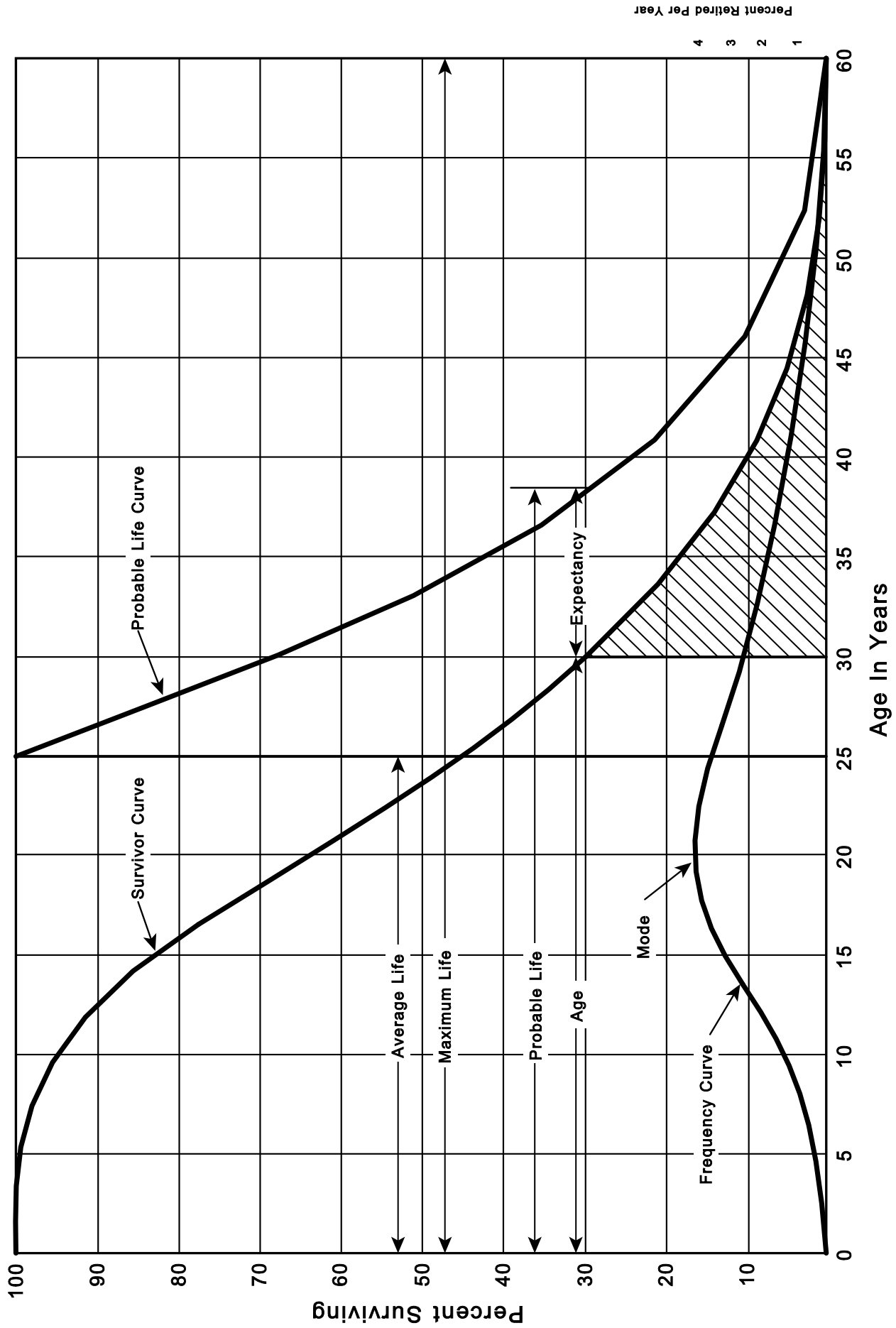


Figure 1. A Typical Survivor Curve and Derived Curves

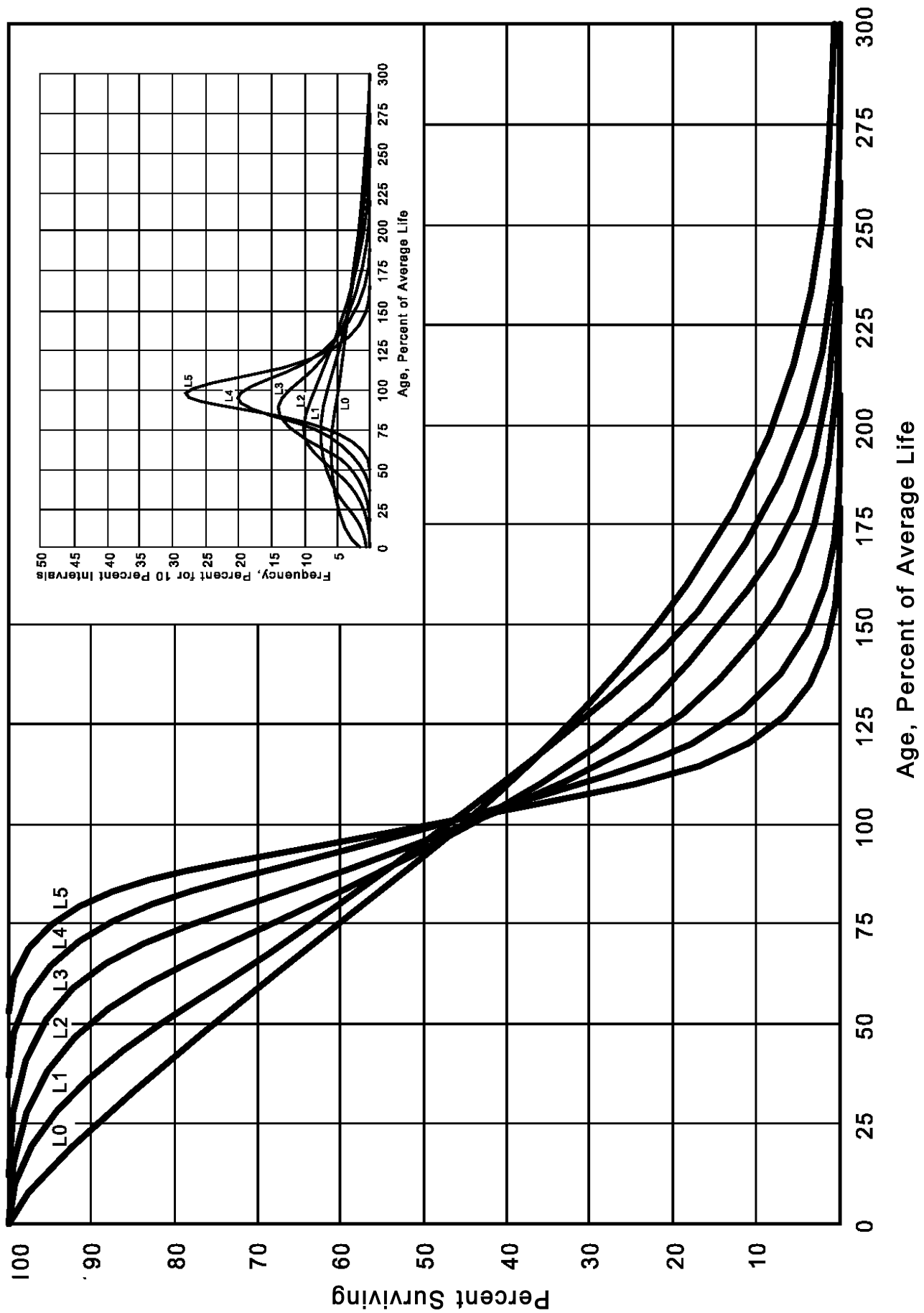


Figure 2. Left Modal or "L" Iowa Type Survivor Curves

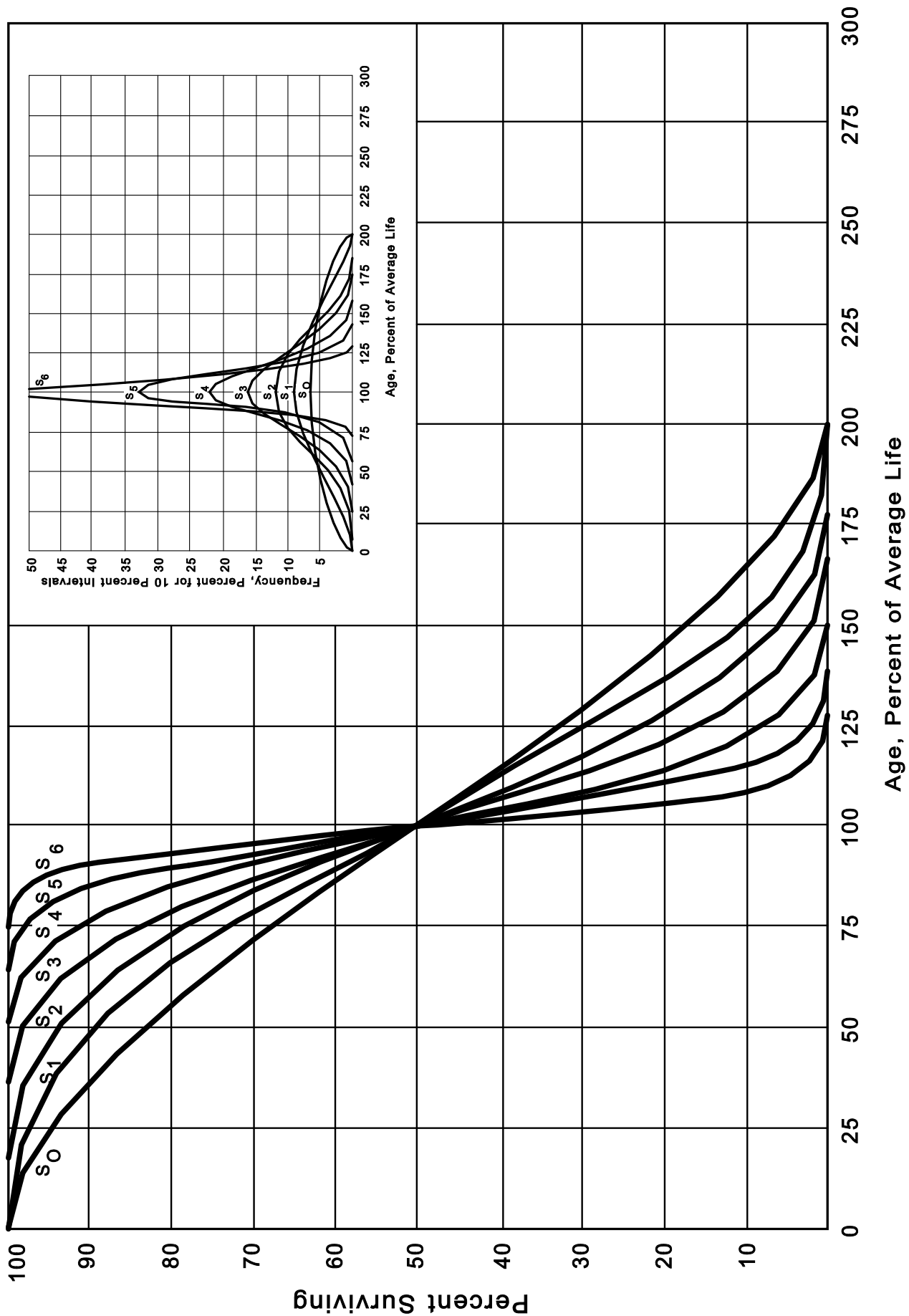


Figure 3. Symmetrical or "S" Iowa Type Survivor Curves

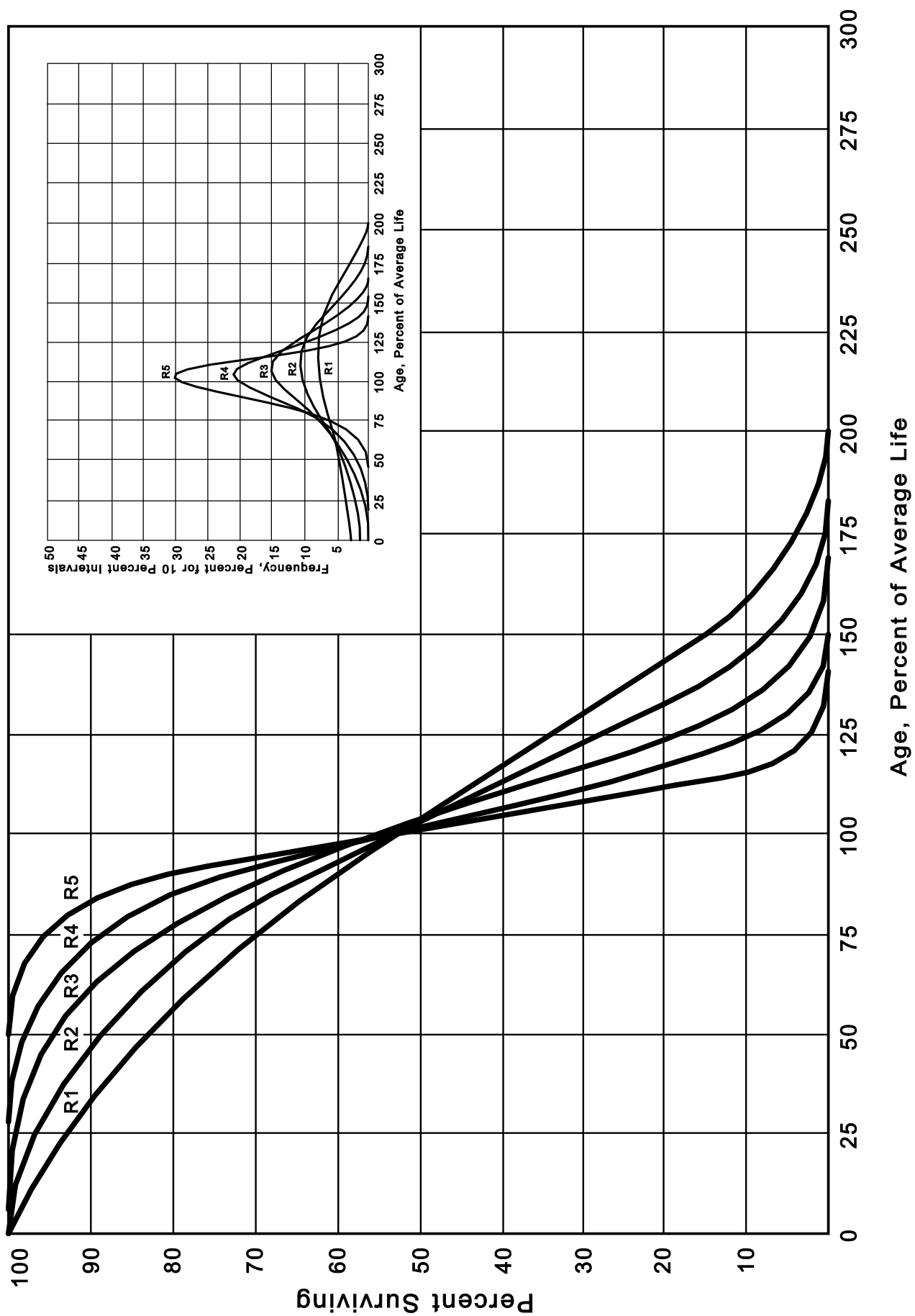


Figure 4. Right Modal or "R" Iowa Type Survivor Curves



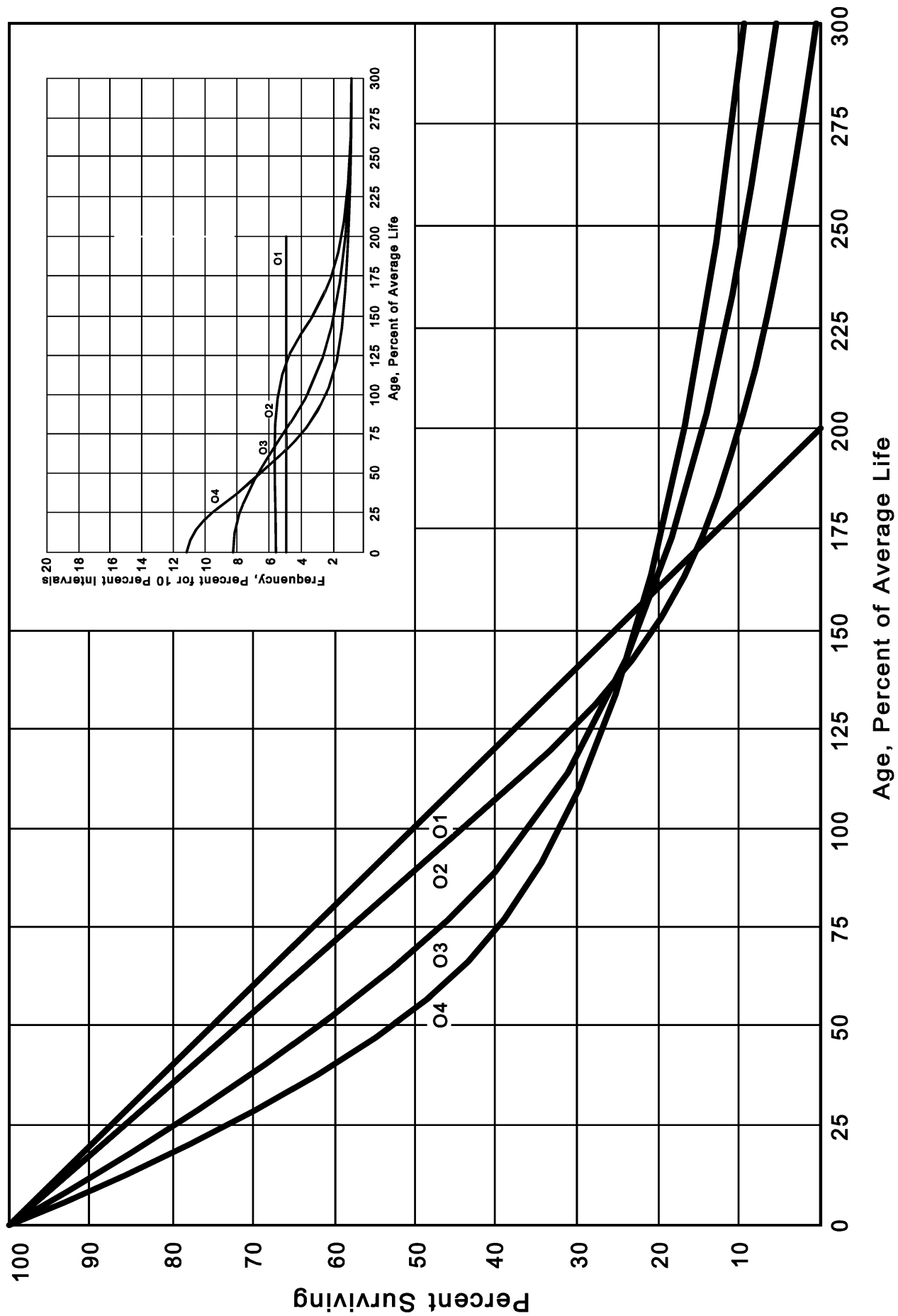


Figure 5. Origin Modal or "O" Iowa Type Survivor Curves

These curve types have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation."<sup>1</sup> In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student submitted a thesis presenting his development of the fourth family consisting of the four O type survivor curves.

### **Retirement Rate Method of Analysis**

The retirement rate method is an actuarial method of deriving survivor curves using the average rates at which property of each age group is retired. The method relates to property groups for which aged accounting experience is available and is the method used to develop the original stub survivor curves in this study. The method (also known as the annual rate method) is illustrated through the use of an example in the following text and is also explained in several publications including "Statistical Analyses of Industrial Property Retirements,"<sup>2</sup> "Engineering Valuation and Depreciation,"<sup>3</sup> and "Depreciation Systems."<sup>4</sup>

The average rate of retirement used in the calculation of the percent surviving for the survivor curve (life table) requires two sets of data: first, the property retired during a period of observation, identified by the property's age at retirement; and second, the property exposed to retirement at the beginning of the age intervals during the same period. The period of observation is referred to as the experience band. The band of years which represent the installation dates of the property exposed to retirement during the experience band is referred to as the placement band. An example of the calculations used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table and illustrations of smoothing the stub survivor curve.

---

<sup>1</sup>Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.

<sup>2</sup>Winfrey, Robley, Statistical Analyses of Industrial Property Retirements. Iowa State College, Engineering Experiment Station, Bulletin 125. 1935.

<sup>3</sup>Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 1.

<sup>4</sup>Wolf, Frank K. and W. Chester Fitch. Depreciation Systems. Iowa State University Press. 1994.

## **Schedules of Annual Transactions in Plant Records**

The property group used to illustrate the retirement rate method is observed for the experience band 2011-2020 for which there were placements during the years 2006-2020. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Schedules 1 and 2 on pages II-11 and II-12. In Schedule 1, the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, \$10,000 of the dollars invested in 2006 were retired in 2011. The \$10,000 retirement occurred during the age interval between 4½ and 5½ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of \$143,000 retired for age interval 4½-5½ is the sum of the retirements entered on Schedule 1 immediately above the stair step line drawn on the table beginning with the 2011 retirements of 2006 installations and ending with the 2020 retirements of the 2015 installations. Thus, the total amount of 143 for age interval 4½-5½ equals the sum of:

$$10 + 12 + 13 + 11 + 13 + 13 + 15 + 17 + 19 + 20.$$



SCHEDULE 1. RETIREMENTS FOR EACH YEAR 2011-2020  
SUMMARIZED BY AGE INTERVAL

Experience Band 2011-2020		Retirements, Thousands of Dollars										Placement Band 2006-2020	
Year Placed	(1)	During Year										Total During Age Interval (12)	Age Interval (13)
		2011 (2)	2012 (3)	2013 (4)	2014 (5)	2015 (6)	2016 (7)	2017 (8)	2018 (9)	2019 (10)	2020 (11)		
2006	10		11	12	13	14	16	23	24	25	26	26	13½-14½
2007	11		12	13	15	16	18	20	21	22	19	44	12½-13½
2008	11		12	13	14	16	17	19	21	22	18	64	11½-12½
2009	8		9	10	11	11	13	14	15	16	17	83	10½-11½
2010	9		10	11	12	13	14	16	17	19	20	93	9½-10½
2011	4		9	10	11	12	13	14	15	16	20	105	8½-9½
2012			5	11	12	13	14	15	16	18	20	113	7½-8½
2013				6	12	13	15	16	17	19	19	124	6½-7½
2014					6	13	15	16	17	19	19	131	5½-6½
2015						7	14	16	17	19	20	143	4½-5½
2016							8	18	20	22	23	146	3½-4½
2017								9	20	22	25	150	2½-3½
2018									11	23	25	151	1½-2½
2019										11	24	153	½-1½
2020											13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606		



SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2011-2020  
SUMMARIZED BY AGE INTERVAL

Experience Band 2011-2020											Placement Band 2006-2020	
Acquisitions, Transfers and Sales, Thousands of Dollars												
Year Placed (1)	During Year										Total During Age Interval (12)	Age Interval (13)
	2011 (2)	2012 (3)	2013 (4)	2014 (5)	2015 (6)	2016 (7)	2017 (8)	2018 (9)	2019 (10)	2020 (11)		
2006	-	-	-	-	-	-	60 <sup>a</sup>	-	-	-	-	13½-14½
2007	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2008	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2009	-	-	-	-	-	-	-	(5) <sup>b</sup>	-	-	60	10½-11½
2010	-	-	-	-	-	-	-	6 <sup>a</sup>	-	-	-	9½-10½
2011	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2012	-	-	-	-	-	-	-	-	-	-	6	7½-8½
2013	-	-	-	-	-	-	-	-	-	-	-	6½-7½
2014	-	-	-	-	-	-	-	(12) <sup>b</sup>	-	-	-	5½-6½
2015	-	-	-	-	-	-	-	-	22 <sup>a</sup>	-	-	4½-5½
2016	-	-	-	-	-	-	-	(19) <sup>b</sup>	-	-	10	3½-4½
2017	-	-	-	-	-	-	-	-	-	-	-	2½-3½
2018	-	-	-	-	-	-	-	-	-	(102) <sup>c</sup>	(121)	1½-2½
2019	-	-	-	-	-	-	-	-	-	-	-	½-1½
2020	-	-	-	-	-	-	-	-	-	-	-	0-½
Total	-	-	-	-	-	-	60	(30)	22	(102)	(50)	

<sup>a</sup> Transfer Affecting Exposures at Beginning of Year

<sup>b</sup> Transfer Affecting Exposures at End of Year

<sup>c</sup> Sale with Continued Use

Parentheses Denote Credit Amount.

In Schedule 2, other transactions which affect the group are recorded in a similar manner. The entries illustrated include transfers and sales. The entries which are credits to the plant account are shown in parentheses. The items recorded on this schedule are not totaled with the retirements, but are used in developing the exposures at the beginning of each age interval.

### **Schedule of Plant Exposed to Retirement**

The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Schedule 3 on page II-14. The surviving plant at the beginning of each year from 2011 through 2020 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Schedule 3 for each successive year following the beginning balance or addition are obtained by adding or subtracting the net entries shown on Schedules 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2016 are calculated in the following manner:

Exposures at age 0	= amount of addition	= \$750,000
Exposures at age ½	= \$750,000 - \$ 8,000	= \$742,000
Exposures at age 1½	= \$742,000 - \$18,000	= \$724,000
Exposures at age 2½	= \$724,000 - \$20,000 - \$19,000	= \$685,000
Exposures at age 3½	= \$685,000 - \$22,000	= \$663,000

**SCHEDULE 3. PLANT EXPOSED TO RETIREMENT**  
**JANUARY 1 OF EACH YEAR 2011-2020**  
**SUMMARIZED BY AGE INTERVAL**

Experience Band 2011-2020											Placement Band 2006-2020		
Year	Exposures, Thousands of Dollars										Total at		
	Annual Survivors at the Beginning of the Year										Beginning of	Age	
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Age Interval	Interval	
Placed	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2006	255	245	234	222	209	195	239	216	192	167	167	167	13½-14½
2007	279	268	256	243	228	212	194	174	153	131	323	323	12½-13½
2008	307	296	284	271	257	241	224	205	184	162	531	531	11½-12½
2009	338	330	321	311	300	289	276	262	242	226	823	823	10½-11½
2010	376	367	357	346	334	321	307	297	280	261	1,097	1,097	9½-10½
2011	420 <sup>a</sup>	416	407	397	386	374	361	347	332	316	1,503	1,503	8½-9½
2012		460 <sup>a</sup>	455	444	432	419	405	390	374	356	1,952	1,952	7½-8½
2013			510 <sup>a</sup>	504	492	479	464	448	431	412	2,463	2,463	6½-7½
2014				580 <sup>a</sup>	574	561	546	530	501	482	3,057	3,057	5½-6½
2015					660 <sup>a</sup>	653	639	623	628	609	3,789	3,789	4½-5½
2016						750 <sup>a</sup>	742	724	685	663	4,332	4,332	3½-4½
2017							850 <sup>a</sup>	841	821	799	4,955	4,955	2½-3½
2018								960 <sup>a</sup>	949	926	5,719	5,719	1½-2½
2019									1,080 <sup>a</sup>	1,069	6,579	6,579	½-1½
2020										1,220 <sup>a</sup>	7,490	7,490	0-½
Total	1,975	2,382	2,824	3,318	3,872	4,494	5,247	6,017	6,852	7,799	44,780	44,780	

<sup>a</sup>Additions during the year

For the entire experience band 2011-2020, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Schedule 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

$$255 + 268 + 284 + 311 + 334 + 374 + 405 + 448 + 501 + 609.$$

### **Original Life Table**

The original life table, illustrated in Schedule 4 on page II-16, is developed from the totals shown on the schedules of retirements and exposures, Schedules 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios, each of which equals one minus the retirement ratio. The percent surviving is developed by starting with 100% at age zero and successively multiplying the percent surviving at the beginning of each interval by the survivor ratio, i.e., one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age 5½ are as follows:

Percent surviving at age 4½	=	88.15	
Exposures at age 4½	=	3,789,000	
Retirements from age 4½ to 5½	=	143,000	
Retirement Ratio	=	143,000 ÷ 3,789,000	= 0.0377
Survivor Ratio	=	1.000 - 0.0377	= 0.9623
Percent surviving at age 5½	=	(88.15) x (0.9623)	= 84.83

The totals of the exposures and retirements (columns 2 and 3) are shown for the purpose of checking with the respective totals in Schedules 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless.



SCHEDULE 4. ORIGINAL LIFE TABLE  
CALCULATED BY THE RETIREMENT RATE METHOD

Experience Band 2011-2020

Placement Band 2006-2020

(Exposure and Retirement Amounts are in Thousands of Dollars)

Age at Beginning of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retirement Ratio	Survivor Ratio	Percent Surviving at Beginning of Age Interval
(1)	(2)	(3)	(4)	(5)	(6)
0.0	7,490	80	0.0107	0.9893	100.00
0.5	6,579	153	0.0233	0.9767	98.93
1.5	5,719	151	0.0264	0.9736	96.62
2.5	4,955	150	0.0303	0.9697	94.07
3.5	4,332	146	0.0337	0.9663	91.22
4.5	3,789	143	0.0377	0.9623	88.15
5.5	3,057	131	0.0429	0.9571	84.83
6.5	2,463	124	0.0503	0.9497	81.19
7.5	1,952	113	0.0579	0.9421	77.11
8.5	1,503	105	0.0699	0.9301	72.65
9.5	1,097	93	0.0848	0.9152	67.57
10.5	823	83	0.1009	0.8991	61.84
11.5	531	64	0.1205	0.8795	55.60
12.5	323	44	0.1362	0.8638	48.90
13.5	<u>167</u>	<u>26</u>	0.1557	0.8443	42.24
					35.66
Total	<u>44,780</u>	<u>1,606</u>			

Column 2 from Schedule 3, Column 12, Plant Exposed to Retirement.

Column 3 from Schedule 1, Column 12, Retirements for Each Year.

Column 4 = Column 3 Divided by Column 2.

Column 5 = 1.0000 Minus Column 4.

Column 6 = Column 5 Multiplied by Column 6 as of the Preceding Age Interval.

The original survivor curve is plotted from the original life table (column 6, Schedule 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

### **Smoothing the Original Survivor Curve**

The smoothing of the original survivor curve eliminates any irregularities and serves as the basis for the preliminary extrapolation to zero percent surviving of the original stub curve. Even if the original survivor curve is complete from 100% to zero percent, it is desirable to eliminate any irregularities, as there is still an extrapolation for the vintages which have not yet lived to the age at which the curve reaches zero percent. In this study, the smoothing of the original curve with established type curves was used to eliminate irregularities in the original curve.

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Schedule 4 is compared with the L, S, and R Iowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0.

In Figure 9, the three fittings, 12-L1, 12-S0 and 12-R1 are drawn for comparison purposes. It is probable that the 12-R1 Iowa curve would be selected as the most representative of the plotted survivor characteristics of the group.

FIGURE 6. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1 IOWA TYPE CURVE  
ORIGINAL AND SMOOTH SURVIVOR CURVES

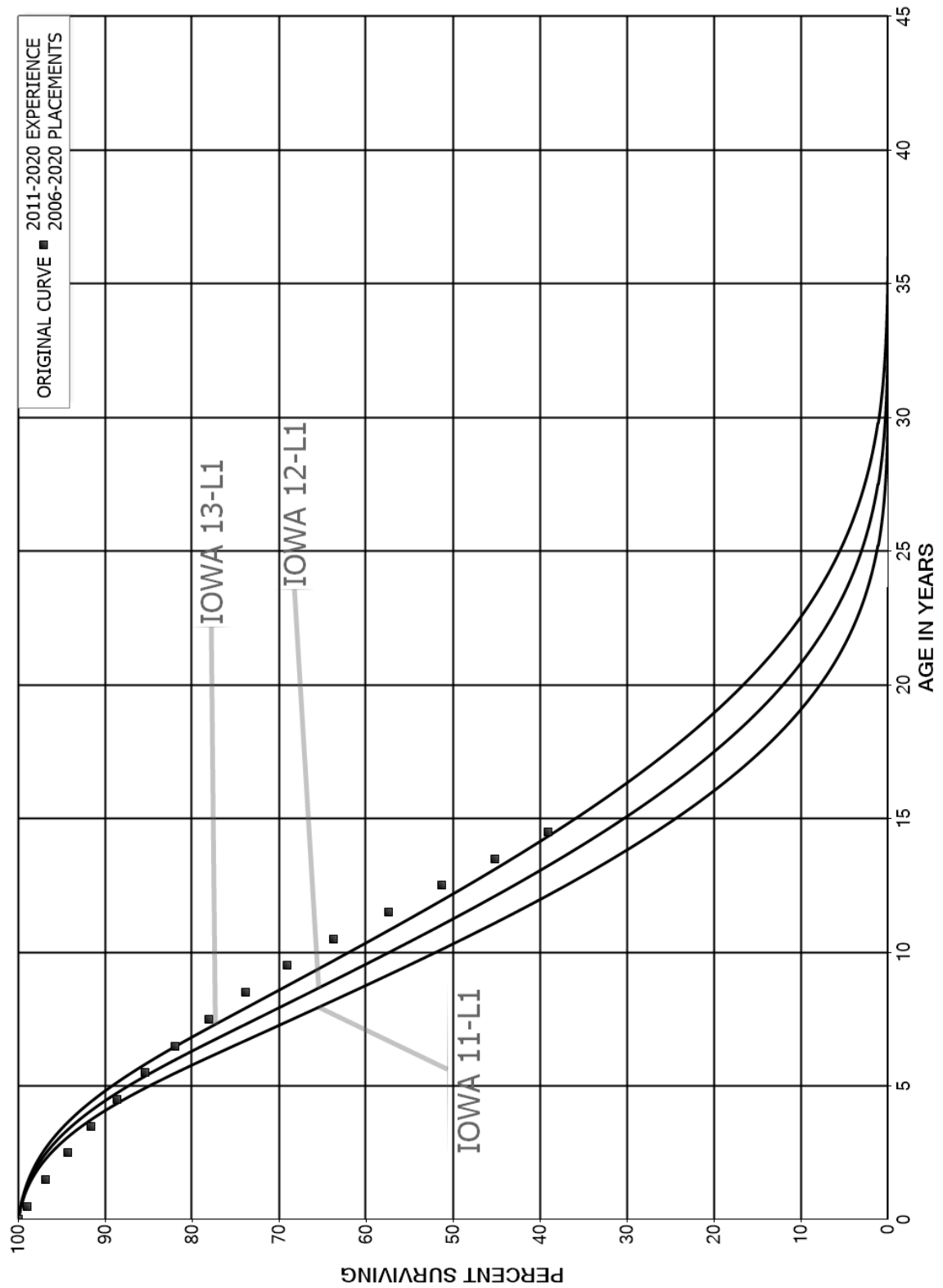


FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN S0 IOWA TYPE CURVE  
ORIGINAL AND SMOOTH SURVIVOR CURVES

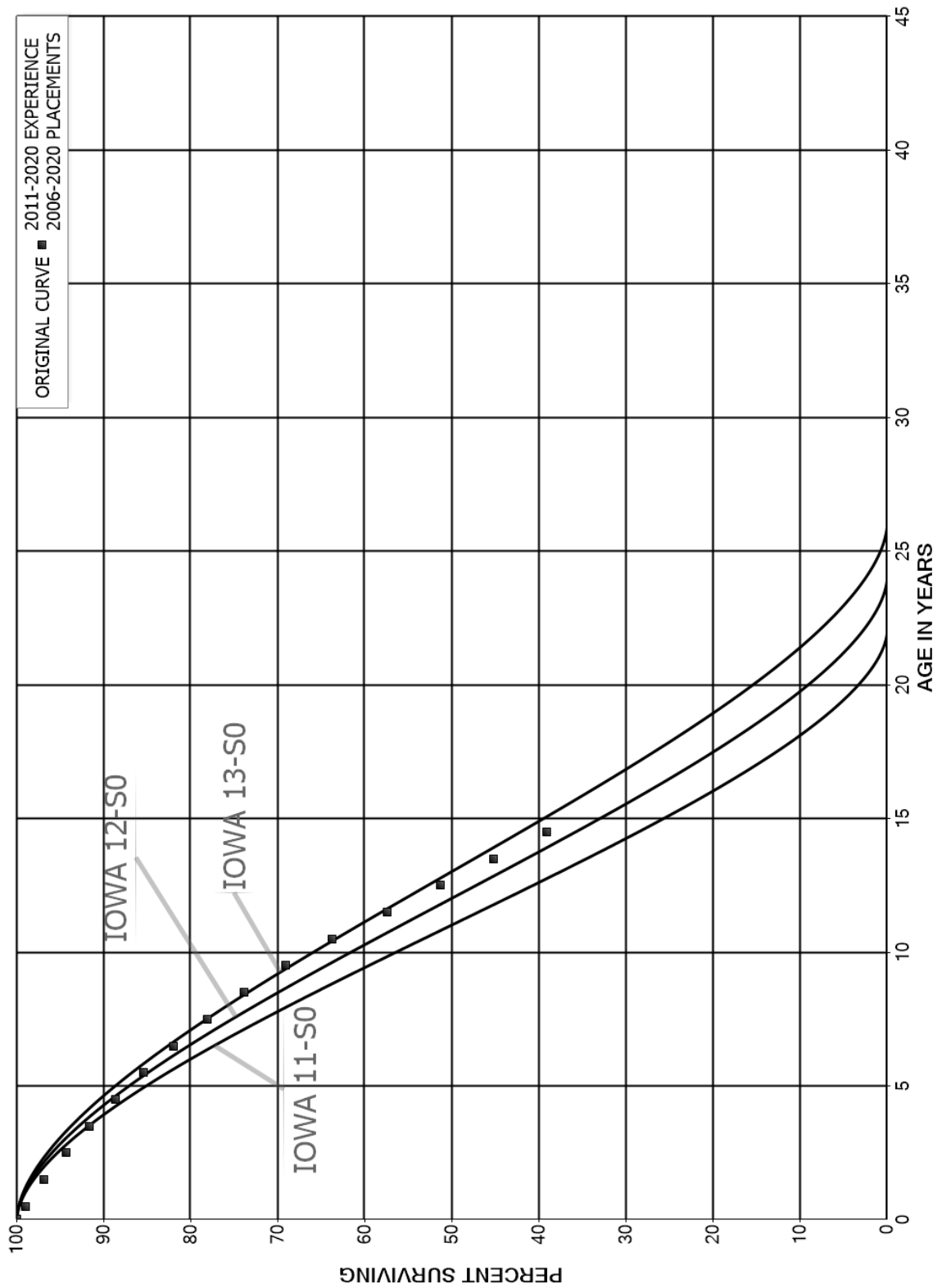


FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE  
ORIGINAL AND SMOOTH SURVIVOR CURVES

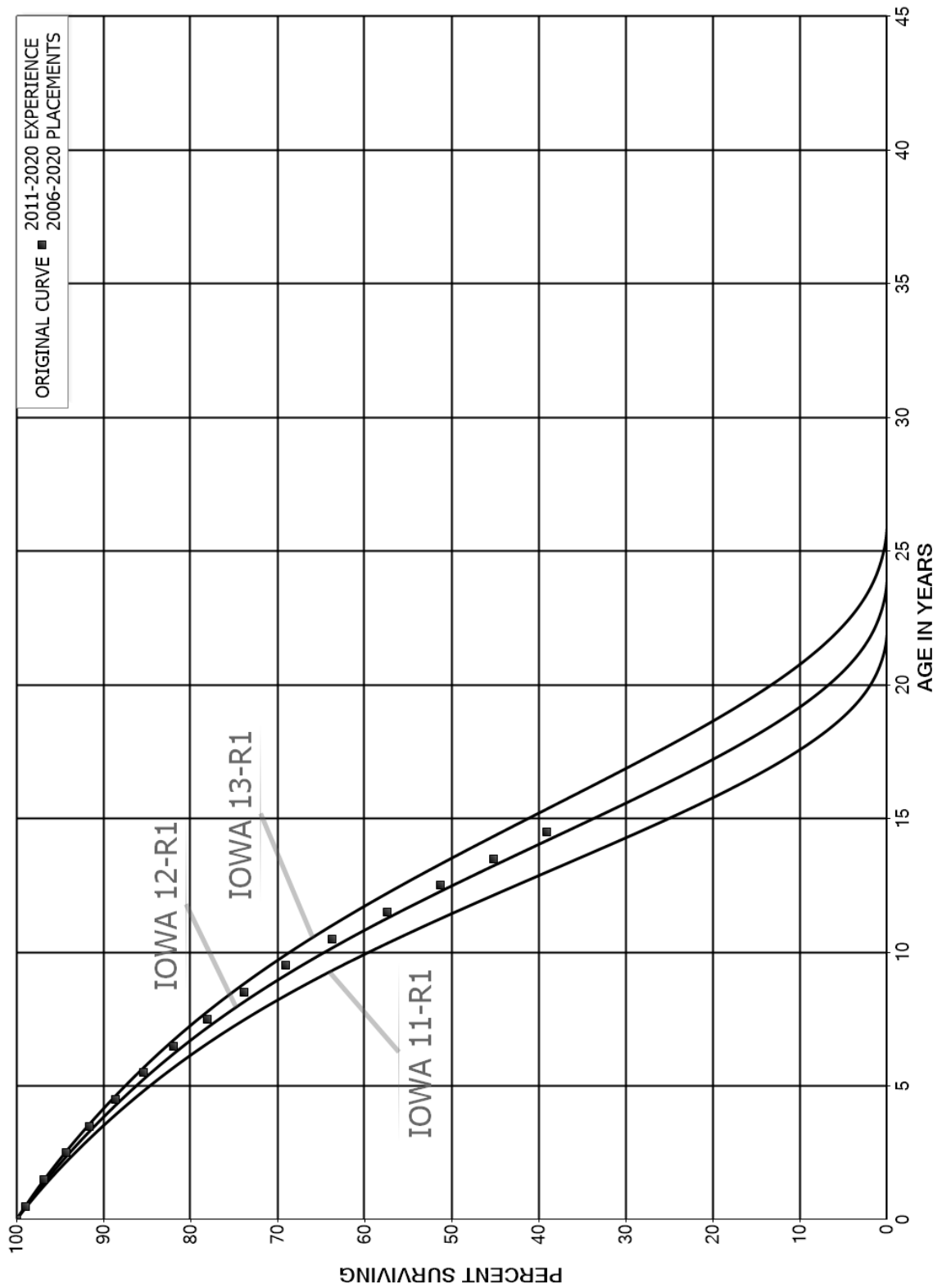
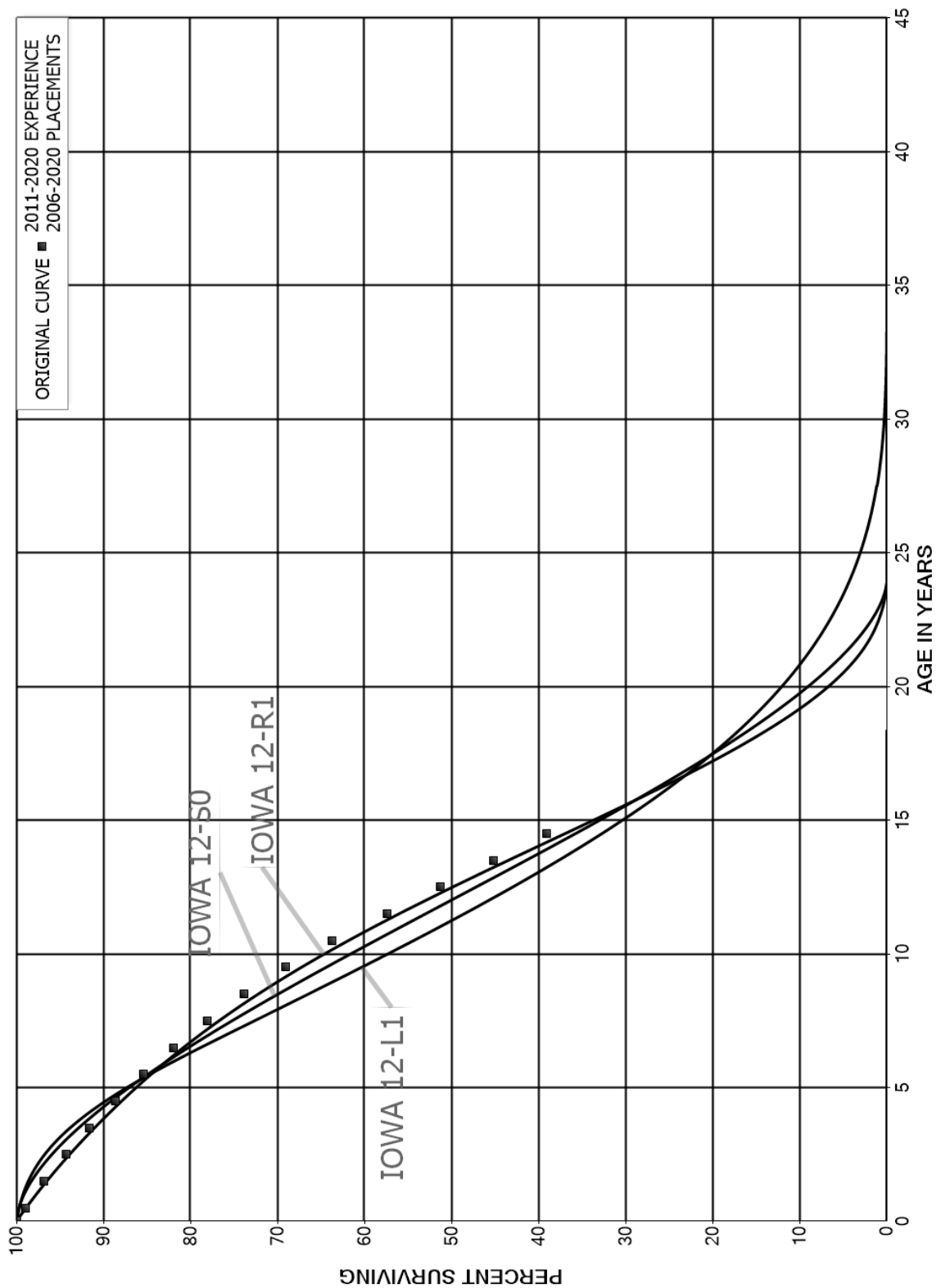


FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1, S0 AND R1 IOWA TYPE CURVE  
ORIGINAL AND SMOOTH SURVIVOR CURVES



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## **PART III. SERVICE LIFE CONSIDERATIONS**

### **PART III. SERVICE LIFE CONSIDERATIONS**

#### **Judgments**

The survivor curve estimates were based on judgment which considered factors including statistical analyses of retirements, Company policies and outlook as determined during discussions with management, and survivor curve estimates from previous studies of the other Aqua Pennsylvania wastewater systems. For depreciable groups which consist of numerous similar items of property, the distribution of the lives of the units in the group was judged on the basis of an average survival pattern for the entire group.

The amortization periods selected for general plant Accounts 394, 396 and 397 are discussed in the section, "Amortization of General Plant Accounts."



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## **PART IV. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION**

## **PART IV. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION**

### **BOOK RESERVE**

The book reserve as of March 31, 2021, is the result of a bringforward of the book reserves established by the Commission for the East Norriton wastewater operations at the time of acquisition. The projected book reserve as of March 31, 2022, is a bringforward of the March 31, 2021 book reserve based on projected accruals, retirements, cost of removal, salvage and other credits.

### **CALCULATION OF DEPRECIATION**

The annual depreciation accruals as of March 31, 2022, are based on the straight line remaining life method and the equal life group procedure. For the purpose of calculating the remaining life accruals as of March 31, 2022, the book reserve is allocated among vintages in proportion to the calculated accrued depreciation as of March 31, 2022.

#### **Group Depreciation Procedures**

A group procedure for depreciation is appropriate when considering more than a single item of property. Normally, the items within a group do not have identical service lives but have lives that are dispersed over a range of time.

In the average service life procedure, the rate of annual depreciation is based on the average life or average remaining life of the group, and this rate is applied to the surviving balances of the group's cost. A characteristic of this procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas

the cost of plant retired subsequent to average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life.

In the equal life group procedure, the property group is subdivided according to service life. That is, each equal life group includes that portion of the property which experiences the life of that specific group. The relative size of each equal life group is determined from the property's life dispersion curve. This procedure eliminates the need to base depreciation on average lives, inasmuch as each group is equivalent to a unit having a single life. The full costs of short-lived units are accrued during their lives, leaving no deferral of accruals required to be added to the annual costs associated with long-lived units. The calculated depreciation for the property group is the summation of the calculated depreciation based on the service life of each equal life group.

### **Remaining Life Annual Accruals**

For the purpose of calculating remaining life accrual rates as of March 31, 2022, the estimated book depreciation reserve for each plant account is allocated among vintages in proportion to the calculated accrued depreciation for the account. Explanations of remaining life accruals and calculated accrued depreciation based on the equal life group procedure follow. The detailed calculations are set forth in the Results of The Study section of the report.

## **Equal Life Group Procedure**

In the equal life group procedure, the remaining life annual accrual for each vintage is determined by dividing future book accruals (original cost less book reserve) by the composite remaining life for the surviving original cost of that vintage. The composite remaining life is derived by compositing the individual equal life group remaining lives in accordance with the following equation:

$$\text{Composite Remaining Life} = \frac{\sum \left( \frac{\text{Book Cost}}{\text{Life}} \times \text{Remaining Life} \right)}{\sum \frac{\text{Book Cost}}{\text{Life}}}.$$

The book costs and lives of the several equal life groups which are summed in the foregoing equation are defined by the estimated survivor curve.

Inasmuch as book cost divided by life equals the whole life annual accrual, the foregoing equation reduces to the following form:

$$\text{Composite Remaining Life} = \frac{\sum \text{Whole Life Future Accruals}}{\sum \text{Whole Life Annual Accruals}}$$

or

$$\text{Composite Remaining Life} = \frac{\sum \text{Book Cost} - \text{Calc. Reserve}}{\sum \text{Whole Life Annual Accrual}}.$$

The annual accrual rate for each account is equal to the sum of the remaining life annual accruals for all vintages divided by the account's total original cost. The account's "composite remaining life" is calculated by dividing the sum of the future book accruals for all vintages by the sum of the remaining life annual accruals for all vintages.

The calculated accrued depreciation in the equal life group procedure also represents that portion of depreciable cost which will not be allocated to expense through future accruals. However, the calculation is based at the equal life group level rather than the vintage group level and does not require the use of averages. The equal life group accrued depreciation ratio is calculated as follows:

$$Ratio = 1 - \left( \frac{Remaining\ Life}{Service\ Life} \right)$$

Inasmuch as service life minus remaining life equals age, when averages are not employed, the foregoing equation reduces to:

$$Ratio = \left( \frac{Age}{Service\ Life} \right)$$

## **AMORTIZATION OF GENERAL PLANT ACCOUNTS**

In order to use a more efficient and cost effective accounting process for equipment recorded in general plant Accounts 394, 396 and 397; amounts capitalized in these accounts are amortized rather than depreciated. Amortization as defined in the Uniform System of Accounts is the gradual extinguishment of an amount in an account by distributing such amount over a fixed period, over the life of the asset or liability to which it applies, or over the period during which it is anticipated the benefit will be realized.

The primary reasons for the amortization of certain general plant accounts is that the effort required to unitize additions, periodically inventory equipment and determine amounts to be retired for equipment recorded in these accounts is disproportionate to the original cost of the equipment when compared to other wastewater plant accounts.

Accounting for such equipment using an amortization concept consists of capitalization of amounts to these accounts based on the same criteria as used previously

under depreciation accounting, amortization of the asset over a fixed period, retirement of the equipment at the end of the amortization period and recognition of any net salvage related to disposition of equipment in these accounts as a gain or loss. For equipment in these accounts that was placed in service prior to implementation of amortization accounting, the net book value by vintage amortized over the remaining amortization period specified for each account and the original cost will be retired at the end of this period.

The amortization periods selected for each account or subaccount are based on a review of the existing depreciation rates for the accounts, typical service lives used for each type of equipment and a consideration of the period during which it is anticipated that most of the benefit of the equipment will be realized. The amortization periods are as follows:

<u>Account Number</u>	<u>Description</u>	<u>Amortization Period, Years</u>
394	Laboratory Equipment	25
396	Communication Equipment	
	General	15
397	Miscellaneous Equipment	25

## **NET SALVAGE**

Experienced net salvage is incorporated in the results of the study as it was reported on the Company's books and records for the period January 1, 2017 through March 31, 2021 and estimated for the period April 1, 2021 through December 31, 2021. The calculation of the amortization is shown in Table 4 on page V-7. The amounts of

gross salvage and removal cost by account for each year are set forth in the section beginning on page VIII-2.

Net salvage is presented in this manner to determine the amount of net salvage to be amortized to the cost of service for ratemaking purposes. In order to be consistent with this manner of recognizing net salvage, no adjustments for net salvage were made to the annual depreciation calculated for the individual accounts.

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## PART V. RESULTS OF STUDY



## **PART V. RESULTS OF STUDY**

### **DESCRIPTION OF SUMMARY TABULATIONS**

Table 1 summarizes the results of the depreciation study which sets forth, by depreciable group, the estimated survivor curve, calculated annual accruals and book reserve related to net original cost and the annual amortization of net salvage. Table 2 presents the bringforward to March 31, 2022 of the book reserve as of March 31, 2021. Table 3 sets forth the calculation of estimated depreciation accruals for the twelve months ended March 31, 2022. Table 4 presents the amortization of experienced and estimated net salvage, by account, based on the five-year period, 2017-2021. The total amortization amount is incorporated in the total annual accrual in Table 1.

### **DESCRIPTION OF DETAILED TABULATIONS**

Supporting statistical data for the estimates of average service lives and survivor curves, the annual depreciation calculations, and gross salvage and cost of removal for the years 2017-2021 are presented in three sections.

The section beginning on page VI-2 sets forth, for each depreciable group analyzed by the retirement rate method, a chart depicting the original and estimated survivor curves followed by a tabular presentation of the original life table plotted on the chart. A cumulative summary, by year installed, for utility plant and the supporting data for the original cost depreciation calculations are presented in the section beginning on page VII-3. The tabulations of experienced and estimated net salvage, by year and account for the five-year period 2017-2021, are presented in the section beginning on page VIII-2.

In the first section, the survivor curves estimated for the depreciable groups are shown as dark smooth curves on the charts. Each smooth survivor curve is denoted by a numeral followed by the type curve designation. The numeral used is the average life derived from the entire curve from 100 percent to zero percent surviving. In cases where only a segment of the estimated curve is used in the depreciation calculation, the numeral used for identification purposes is not a designation of the average life of the group. The titles of the charts indicate the group, the symbol used to plot the points of the original life table, and the experience and placement bands of the life tables which were plotted. The experience band indicates the range of years for which the retirements were used to develop the stub survivor curve. The placements indicate, for the related experience band, the range of years of installations which appear in the experience.

The tables of the calculated annual depreciation related to original cost are presented in account sequence in the second section and indicate the estimated average survivor curves used in the calculations. The tables set forth, for each installation year, the original cost, calculated accrued depreciation, allocated book reserve, remaining life expectancy, and the calculated annual accrual.

Detailed tabulations setting forth the cost of removal, gross salvage and net salvage amounts, by account and year, are presented in the third section. The net salvage amounts, by account and year, are carried forward to Table 4, which presents the five-year amortization of net salvage.

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF MARCH 31, 2022

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	ORIGINAL COST AS OF MARCH 31, 2022 (3)	BOOK DEPRECIATION RESERVE (4)	FUTURE ACCRUALS (5)	CALCULATED ANNUAL ACCRUAL AMOUNT (6)	CALCULATED RATE (7)=(6)/(3)	COMPOSITE REMAINING LIFE (8)=(5)/(6)
<b>INTANGIBLE PLANT</b>							
351.00 ORGANIZATION	NONDEPR.	340,540.49					
<b>TOTAL INTANGIBLE PLANT</b>		<b>340,540.49</b>					
<b>NONDEPRECIABLE PLANT</b>							
353.30 LAND AND LAND RIGHTS - PUMPING	NONDEPR.	170.54					
<b>TOTAL NONDEPRECIABLE PLANT</b>		<b>170.54</b>					
<b>DEPRECIABLE PLANT</b>							
354.00 STRUCTURES AND IMPROVEMENTS PUMPING	60-S1	4,607,062.02	2,864,364	1,742,698	65,535	1.42	26.6
<b>TOTAL ACCOUNT 354</b>		4,607,062.02	2,864,364	1,742,698	65,535		
355.00 POWER GENERATING EQUIPMENT PUMPING	25-R2.5	1,063,342.47	802,213	261,130	36,478	3.43	7.2
<b>TOTAL ACCOUNT 355</b>		1,063,342.47	802,213	261,130	36,478		
360.00 COLLECTION MAINS - FORCE	75-R2.5	2,422,461.23	1,404,323	1,018,138	34,362	1.42	29.6
361.00 COLLECTION MAINS - GRAVITY	75-R2.5	29,837,147.25	17,530,505	12,306,642	410,693	1.38	30.0
363.00 SERVICES	70-R4	6,831,527.12	4,693,066	2,138,461	94,223	1.38	22.7
364.00 METERS	25-S2.5	289,570.95	210,233	79,338	15,331	5.29	5.2
371.30 PUMPING EQUIPMENT PUMPING	25-L0.5	4,701,037.60	2,340,940	2,360,098	225,129	4.79	10.5
<b>TOTAL ACCOUNT 371.3</b>		4,701,037.60	2,340,940	2,360,098	225,129		
391.00 TRANSPORTATION EQUIPMENT	15-L3	68,117.42	68,117	0	0	*	-
394.00 LABORATORY EQUIPMENT	25-SQ	40,789.79	29,468	11,322	1,274	**	8.9
395.00 POWER OPERATED EQUIPMENT	20-L2.5	1,249.31	27	1,222	75	6.00	16.3
396.00 COMMUNICATION EQUIPMENT - GENERAL	15-SQ	28,980.85	17,972	11,009	2,097	**	5.2
397.00 MISCELLANEOUS EQUIPMENT	25-SQ	12,557.09	9,921	2,637	157	**	16.8
<b>TOTAL DEPRECIABLE PLANT</b>		<b>49,903,843.10</b>	<b>29,971,149</b>	<b>19,932,695</b>	<b>885,354</b>		
<b>AMORTIZATION OF NET SALVAGE</b>					<b>391</b>		
<b>TOTAL WASTEWATER PLANT IN SERVICE</b>		<b>50,244,554.13</b>	<b>29,971,149</b>	<b>19,932,695</b>	<b>885,745</b>		

\* USE DEPRECIATION RATE OF 3.87% FOR ALL FUTURE ADDITIONS TO ACCOUNT 391.00 TRANSPORTATION EQUIPMENT

\*\* ACCRUALS CALCULATED FOR EACH ASSET BY THE COMPANY'S PROPERTY RECORD SYSTEM USING THE AMORTIZATION PERIOD SET FORTH IN COLUMN 2.



AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

TABLE 2. BRINGFORWARD TO MARCH 31, 2022 OF THE BOOK RESERVE AS OF MARCH 31, 2021

ACCOUNT (1)	BOOK RESERVE AS OF MARCH 31, 2021 (2)	+	DEPRECIATION ACCRUALS (3)	+	AMORTIZATION OF NET SALVAGE (4)	-	PROJECTED RETIREMENTS (5)	+	PROJECTED GROSS SALVAGE (6)	-	PROJECTED COST OF REMOVAL (7)	=	BOOK RESERVE AS OF MARCH 31, 2022 (8)
354.30	2,797,562		66,802										2,864,364
355.30	761,274		40,939										802,213
360.00	1,369,924		34,399										1,404,323
361.00	17,157,367		408,717		10		35,328				260		17,530,505
363.00	4,600,008		94,108		7		868				188		4,693,066
364.00	190,485		19,749										210,233
371.30	2,167,980		226,637		81		51,600				2,158		2,340,940
391.00	68,117												68,117
394.00	27,837		1,632										29,468
395.00	0		27										27
396.00	16,039		1,933										17,972
397.00	9,418		502										9,921
<b>TOTAL</b>	<b>29,166,010</b>		<b>895,444</b>		<b>98</b>		<b>87,796</b>		<b>0</b>		<b>2,606</b>		<b>29,971,149</b>

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

TABLE 3. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED MARCH 31, 2022

ACCOUNT (1)	ORIGINAL COST AS OF MARCH 31, 2021 (2)	ORIGINAL COST AS OF MARCH 31, 2022 (3)	ANNUAL ACCRUAL RATE (4)	ANNUAL ACCRUAL AMOUNT (5)
<b>UTILITY PLANT IN SERVICE</b>				
354.30 STRUCTURES AND IMPROVEMENTS - PUMPING	4,607,062.02	4,607,062.02	1.45	66,802
355.30 POWER GENERATING EQUIPMENT - PUMPING	1,063,342.47	1,063,342.47	3.85	40,939
360.00 COLLECTION MAINS - FORCE	2,422,461.23	2,422,461.23	1.42	34,399
361.00 COLLECTION MAINS - GRAVITY	29,397,175.29	29,837,147.25	1.38	408,717
363.00 SERVICES	6,807,276.05	6,831,527.12	1.38	94,108
364.00 METERS	289,570.95	289,570.95	6.82	19,749
371.30 PUMPING EQUIPMENT - PUMPING	4,400,839.12	4,701,037.60	4.98	226,637
391.00 TRANSPORTATION EQUIPMENT	68,117.42	68,117.42	0.00	0
394.00 LABORATORY EQUIPMENT	40,789.79	40,789.79	4.00 *	1,632
395.00 POWER OPERATED EQUIPMENT	0.00	1,249.31	4.32 **	27
396.00 COMMUNICATION EQUIPMENT - GENERAL	28,980.85	28,980.85	6.67 *	1,933
397.00 MISCELLANEOUS EQUIPMENT	12,557.09	12,557.09	4.00 *	502
<b>TOTAL PLANT IN SERVICE</b>	<b>49,138,172.28</b>	<b>49,903,843.10</b>		<b>895,444</b>

\* ACCRUAL RATE BASED ON AMORTIZATION PERIOD

\*\* ACCRUAL RATE FROM ALL OTHER CALCULATION

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

TABLE 4. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

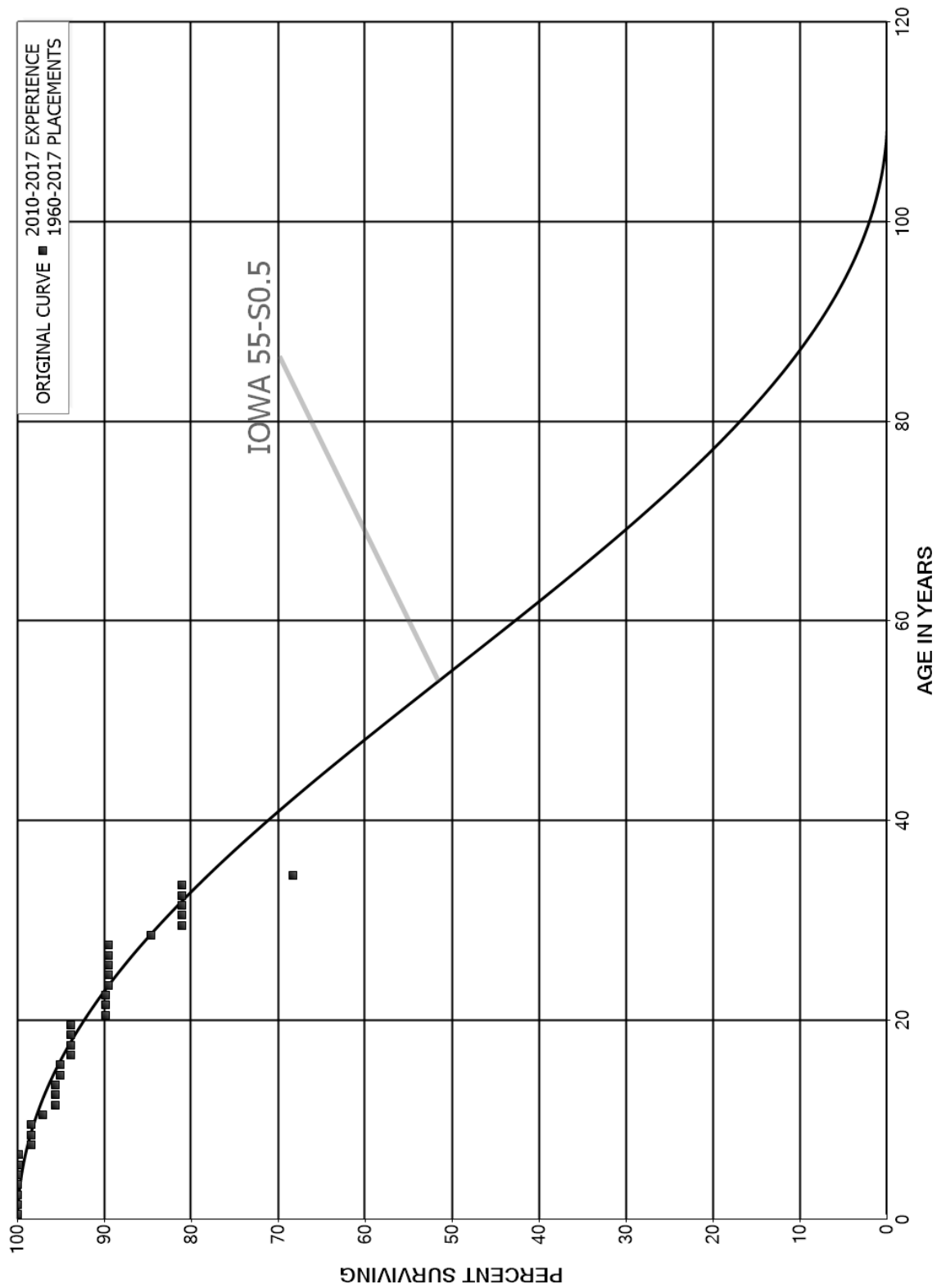
ACCOUNT (1)	2017		2018		2019		2020		2021		NET SALVAGE (12)*	SALVAGE ACCRUAL (13)-(12)/5
	GROSS SALVAGE (2)	COST OF REMOVAL (3)	GROSS SALVAGE (4)	COST OF REMOVAL (5)	GROSS SALVAGE (6)	COST OF REMOVAL (7)	GROSS SALVAGE (8)	COST OF REMOVAL (9)	GROSS SALVAGE (10)	COST OF REMOVAL (11)		
	-	+	-	+	-	+	-	+	-	=		
361.00										195.16	(195.16)	(39)
363.00										140.86	(140.86)	(28)
371.30										1,618.57	(1,618.57)	(324)
<b>TOTAL</b>	-	-	-	-	-	-	-	-	-	<b>1,954.59</b>	<b>(1,954.59)</b>	<b>(391)</b>

\* COLUMN (12) EQUALS THE SUMMATION OF COLUMNS (2) THROUGH (11).

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## **PART VI. SERVICE LIFE STATISTICS**

AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNT 354.2 STRUCTURES AND IMPROVEMENTS - COLLECTION  
 ORIGINAL AND SMOOTH SURVIVOR CURVES





AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.2 STRUCTURES AND IMPROVEMENTS - COLLECTION

ORIGINAL LIFE TABLE

PLACEMENT BAND 1960-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,257,381		0.0000	1.0000	100.00
0.5	2,098,467		0.0000	1.0000	100.00
1.5	1,878,564		0.0000	1.0000	100.00
2.5	1,878,564		0.0000	1.0000	100.00
3.5	3,297,881		0.0000	1.0000	100.00
4.5	3,313,109	5,669	0.0017	0.9983	100.00
5.5	3,307,440		0.0000	1.0000	99.83
6.5	3,293,581	45,724	0.0139	0.9861	99.83
7.5	2,386,087		0.0000	1.0000	98.44
8.5	2,456,269		0.0000	1.0000	98.44
9.5	2,617,044	36,966	0.0141	0.9859	98.44
10.5	1,202,343	18,469	0.0154	0.9846	97.05
11.5	1,247,585		0.0000	1.0000	95.56
12.5	1,267,560		0.0000	1.0000	95.56
13.5	1,267,560	6,016	0.0047	0.9953	95.56
14.5	1,306,451	536	0.0004	0.9996	95.11
15.5	1,293,169	16,982	0.0131	0.9869	95.07
16.5	301,494		0.0000	1.0000	93.82
17.5	171,166		0.0000	1.0000	93.82
18.5	170,707		0.0000	1.0000	93.82
19.5	106,996	4,502	0.0421	0.9579	93.82
20.5	75,352		0.0000	1.0000	89.87
21.5	175,864		0.0000	1.0000	89.87
22.5	130,958	517	0.0039	0.9961	89.87
23.5	130,441		0.0000	1.0000	89.52
24.5	130,441		0.0000	1.0000	89.52
25.5	99,995		0.0000	1.0000	89.52
26.5	112,249		0.0000	1.0000	89.52
27.5	112,249	6,192	0.0552	0.9448	89.52
28.5	106,058	4,413	0.0416	0.9584	84.58
29.5	12,254		0.0000	1.0000	81.06
30.5	12,254		0.0000	1.0000	81.06
31.5	12,254		0.0000	1.0000	81.06
32.5	12,254		0.0000	1.0000	81.06
33.5	12,254	1,937	0.1581	0.8419	81.06
34.5					68.25
35.5					
36.5					
37.5					
38.5					

AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.2 STRUCTURES AND IMPROVEMENTS - COLLECTION

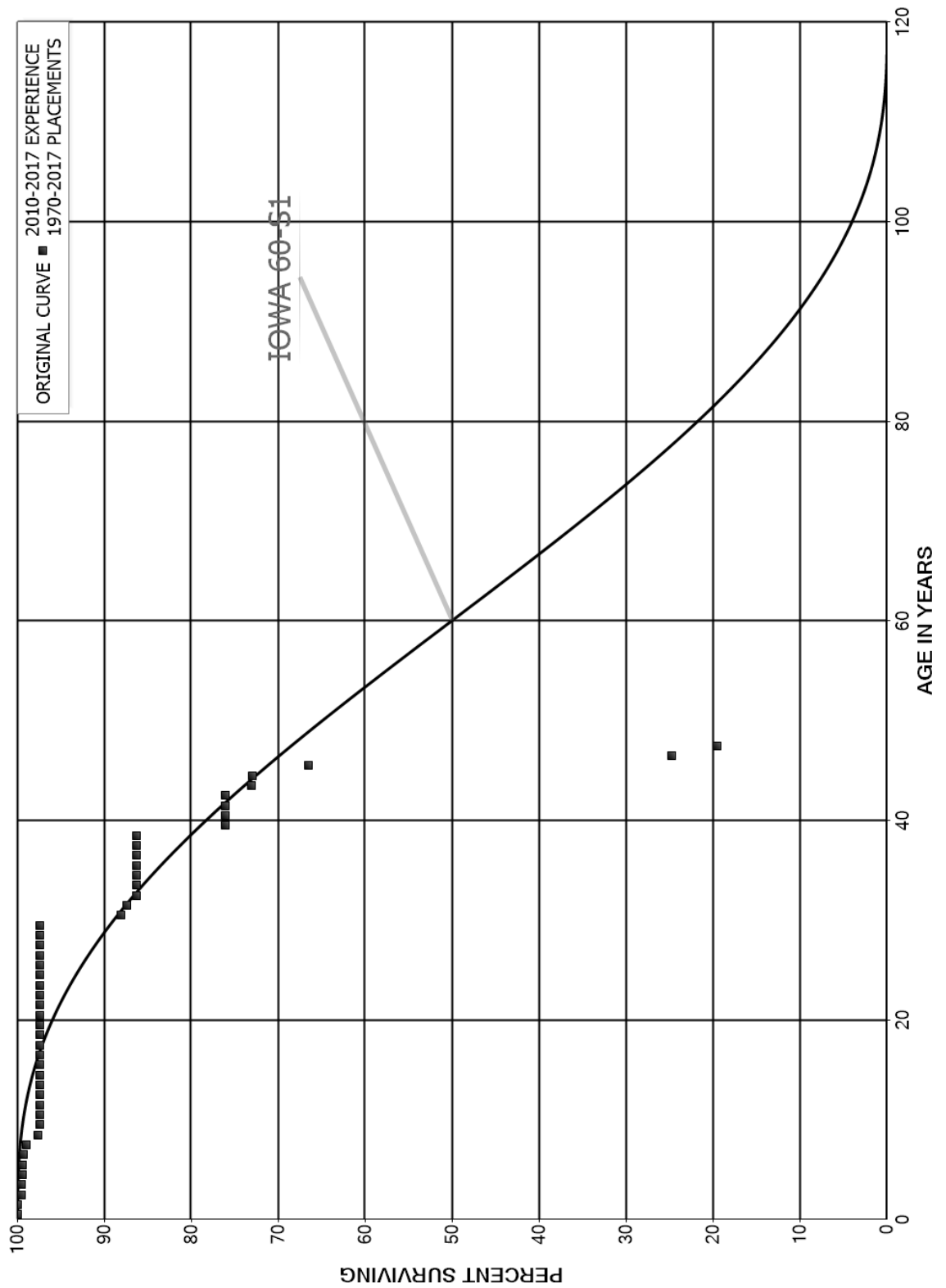
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1960-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5					
40.5					
41.5					
42.5					
43.5					
44.5					
45.5					
46.5					
47.5					
48.5					
49.5	9,083		0.0000		
50.5	9,083		0.0000		
51.5	9,083		0.0000		
52.5	9,083		0.0000		
53.5	9,083	880	0.0969		
54.5	8,203	2,151	0.2623		
55.5	6,051		0.0000		
56.5	6,051	1,192	0.1970		
57.5					

AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNT 354.3 STRUCTURES AND IMPROVEMENTS - PUMPING  
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.3 STRUCTURES AND IMPROVEMENTS - PUMPING

ORIGINAL LIFE TABLE

PLACEMENT BAND 1970-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,946,035		0.0000	1.0000	100.00
0.5	1,798,169	812	0.0005	0.9995	100.00
1.5	1,881,083	8,566	0.0046	0.9954	99.95
2.5	2,256,892		0.0000	1.0000	99.50
3.5	2,685,113	2,709	0.0010	0.9990	99.50
4.5	1,816,131		0.0000	1.0000	99.40
5.5	2,118,481	1,768	0.0008	0.9992	99.40
6.5	2,161,928	6,716	0.0031	0.9969	99.32
7.5	2,144,545	29,171	0.0136	0.9864	99.01
8.5	1,532,146	4,094	0.0027	0.9973	97.66
9.5	1,391,007		0.0000	1.0000	97.40
10.5	881,845		0.0000	1.0000	97.40
11.5	557,791		0.0000	1.0000	97.40
12.5	528,989		0.0000	1.0000	97.40
13.5	214,927		0.0000	1.0000	97.40
14.5	38,152		0.0000	1.0000	97.40
15.5	38,152		0.0000	1.0000	97.40
16.5	38,152		0.0000	1.0000	97.40
17.5	38,152		0.0000	1.0000	97.40
18.5	38,152		0.0000	1.0000	97.40
19.5	42,388		0.0000	1.0000	97.40
20.5	42,388		0.0000	1.0000	97.40
21.5	42,388		0.0000	1.0000	97.40
22.5	11,201		0.0000	1.0000	97.40
23.5	11,201		0.0000	1.0000	97.40
24.5	29,801		0.0000	1.0000	97.40
25.5	34,264		0.0000	1.0000	97.40
26.5	102,646		0.0000	1.0000	97.40
27.5	107,815		0.0000	1.0000	97.40
28.5	118,814		0.0000	1.0000	97.40
29.5	118,814	11,431	0.0962	0.9038	97.40
30.5	107,383	811	0.0075	0.9925	88.03
31.5	192,940	2,409	0.0125	0.9875	87.37
32.5	211,931		0.0000	1.0000	86.27
33.5	207,468		0.0000	1.0000	86.27
34.5	161,528		0.0000	1.0000	86.27
35.5	145,158		0.0000	1.0000	86.27
36.5	53,415		0.0000	1.0000	86.27
37.5	16,911		0.0000	1.0000	86.27
38.5	16,911	2,002	0.1184	0.8816	86.27

AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.3 STRUCTURES AND IMPROVEMENTS - PUMPING

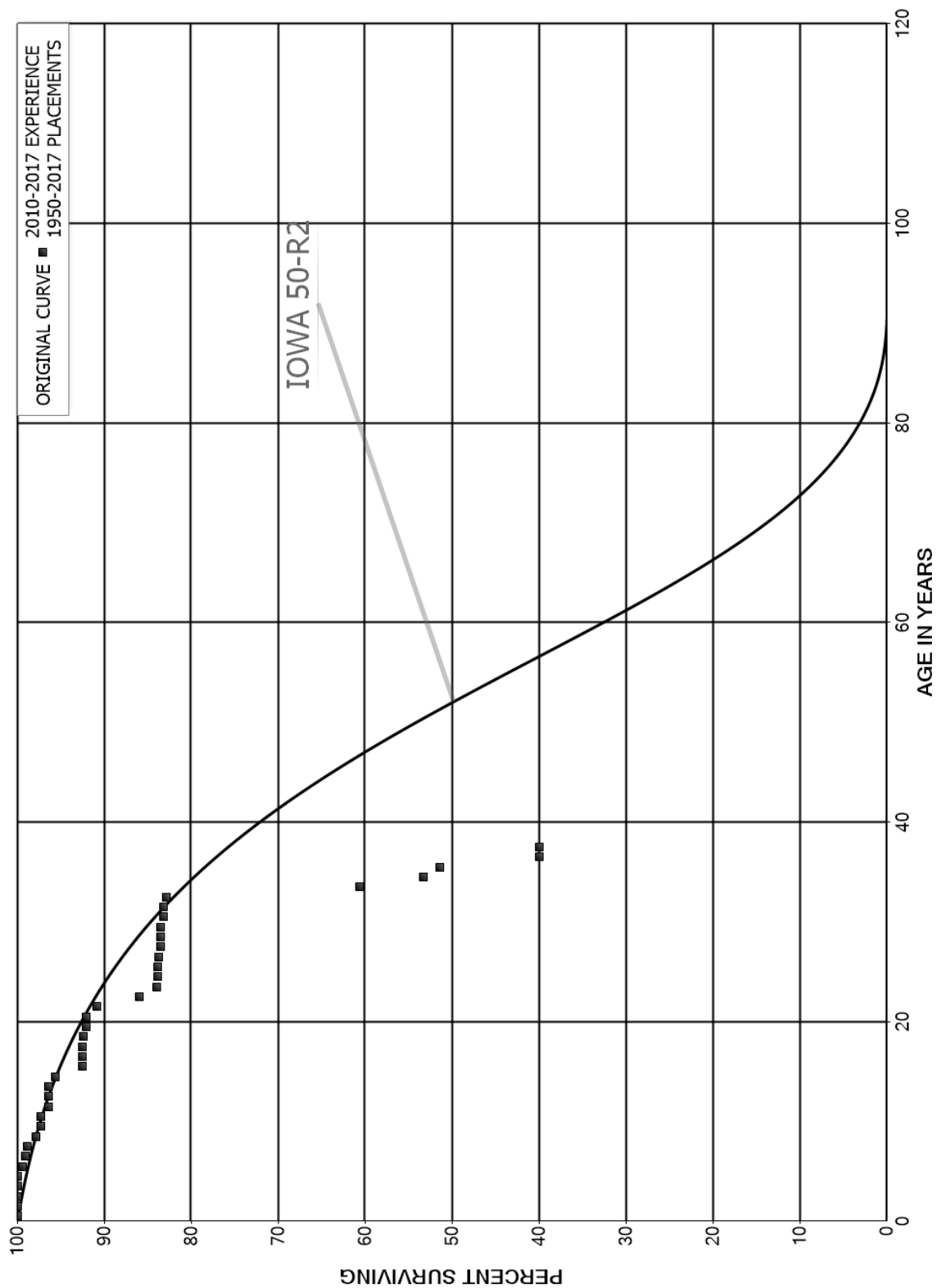
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1970-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	84,816		0.0000	1.0000	76.06
40.5	124,012		0.0000	1.0000	76.06
41.5	124,012		0.0000	1.0000	76.06
42.5	118,224	4,624	0.0391	0.9609	76.06
43.5	113,599	225	0.0020	0.9980	73.08
44.5	45,342	4,015	0.0886	0.9114	72.94
45.5	3,892	2,443	0.6275	0.3725	66.48
46.5	1,450	305	0.2104	0.7896	24.76
47.5					19.55

AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS  
ACCOUNT 354.4 STRUCTURES AND IMPROVEMENTS - TREATMENT AND DISPOSAL  
ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.4 STRUCTURES AND IMPROVEMENTS - TREATMENT AND DISPOSAL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1950-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	3,578,187		0.0000	1.0000	100.00
0.5	6,199,355		0.0000	1.0000	100.00
1.5	5,855,261		0.0000	1.0000	100.00
2.5	5,541,007	1,050	0.0002	0.9998	100.00
3.5	6,139,511	3,928	0.0006	0.9994	99.98
4.5	6,246,905	33,379	0.0053	0.9947	99.92
5.5	6,086,693	18,604	0.0031	0.9969	99.38
6.5	5,379,490	11,225	0.0021	0.9979	99.08
7.5	9,357,452	98,278	0.0105	0.9895	98.87
8.5	6,808,266	36,315	0.0053	0.9947	97.83
9.5	6,770,210	2,864	0.0004	0.9996	97.31
10.5	6,231,635	58,111	0.0093	0.9907	97.27
11.5	5,478,941	371	0.0001	0.9999	96.36
12.5	4,984,366		0.0000	1.0000	96.36
13.5	4,948,804	37,221	0.0075	0.9925	96.36
14.5	4,139,342	133,937	0.0324	0.9676	95.63
15.5	849,694		0.0000	1.0000	92.54
16.5	538,370		0.0000	1.0000	92.54
17.5	515,020	634	0.0012	0.9988	92.54
18.5	462,361	1,597	0.0035	0.9965	92.42
19.5	1,109,863		0.0000	1.0000	92.11
20.5	1,201,958	16,374	0.0136	0.9864	92.11
21.5	1,420,538	77,073	0.0543	0.9457	90.85
22.5	2,280,284	52,790	0.0232	0.9768	85.92
23.5	1,896,916	1,098	0.0006	0.9994	83.93
24.5	2,110,119	856	0.0004	0.9996	83.88
25.5	1,958,767	2,783	0.0014	0.9986	83.85
26.5	2,097,701	4,448	0.0021	0.9979	83.73
27.5	2,106,672		0.0000	1.0000	83.55
28.5	2,051,424		0.0000	1.0000	83.55
29.5	2,564,769	10,032	0.0039	0.9961	83.55
30.5	2,419,157	1,834	0.0008	0.9992	83.23
31.5	298,968	1,105	0.0037	0.9963	83.16
32.5	259,357	69,751	0.2689	0.7311	82.86
33.5	189,606	22,856	0.1205	0.8795	60.57
34.5	111,622	3,894	0.0349	0.9651	53.27
35.5	107,728	24,054	0.2233	0.7767	51.41
36.5	46,827		0.0000	1.0000	39.93
37.5					39.93
38.5					

AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.4 STRUCTURES AND IMPROVEMENTS - TREATMENT AND DISPOSAL

ORIGINAL LIFE TABLE, CONT.

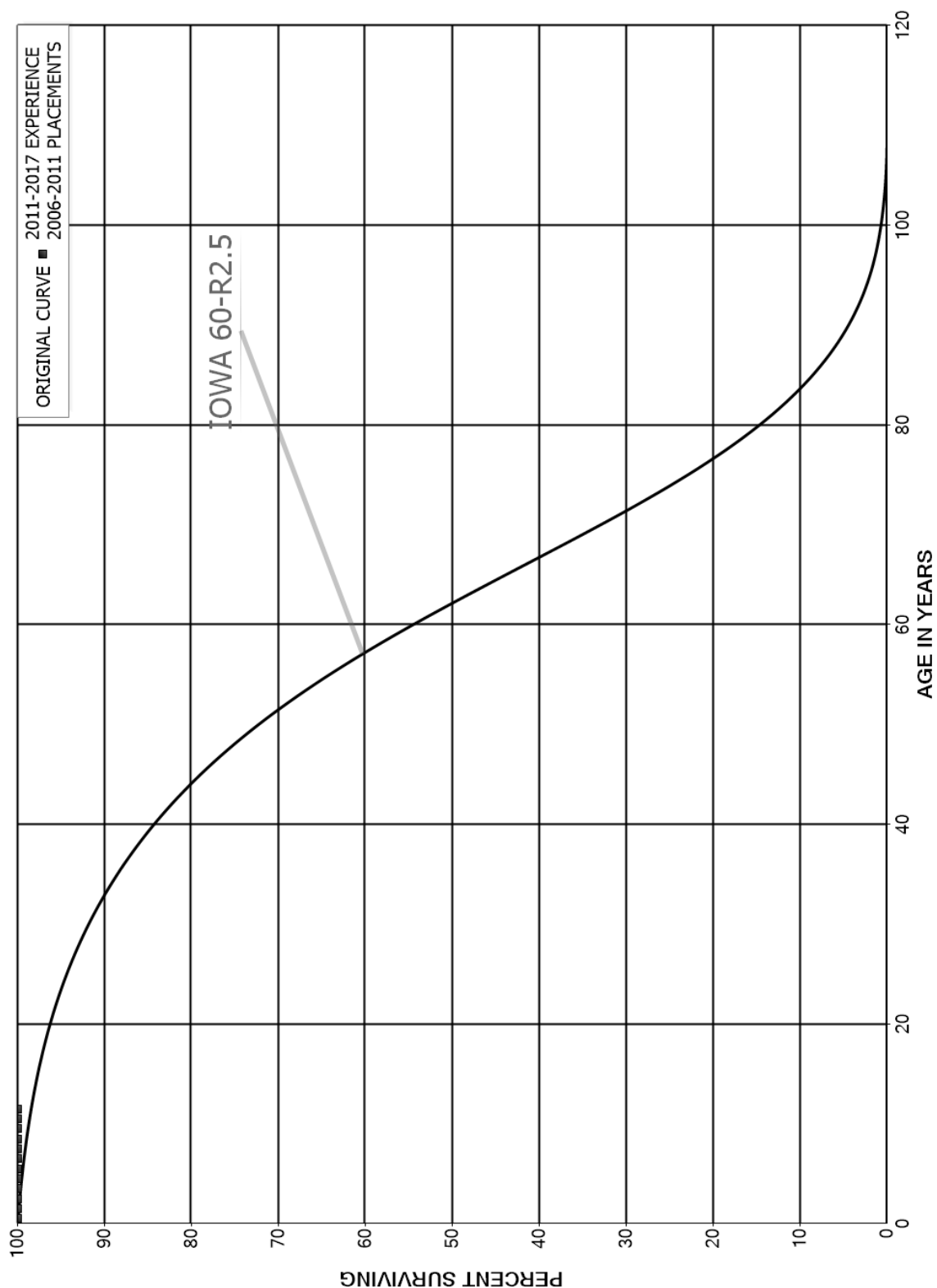
PLACEMENT BAND 1950-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	26,820		0.0000		
40.5	462,945		0.0000		
41.5	462,945	1,160	0.0025		
42.5	461,785	6,332	0.0137		
43.5	455,453	9,139	0.0201		
44.5	419,494	461	0.0011		
45.5	15,914		0.0000		
46.5	15,914	12,150	0.7635		
47.5					
48.5					
49.5					
50.5					
51.5					
52.5					
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5	420,422		0.0000		
60.5	420,422	3,111	0.0074		
61.5	417,311		0.0000		
62.5	417,311		0.0000		
63.5	417,311		0.0000		
64.5	417,311		0.0000		
65.5	417,311		0.0000		
66.5	417,311	44,392	0.1064		
67.5					



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS  
ACCOUNT 354.5 STRUCTURES AND IMPROVEMENTS - RECLAIMED WATER TREATMENT  
ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.5 STRUCTURES AND IMPROVEMENTS - RECLAIMED WATER TREATMENT

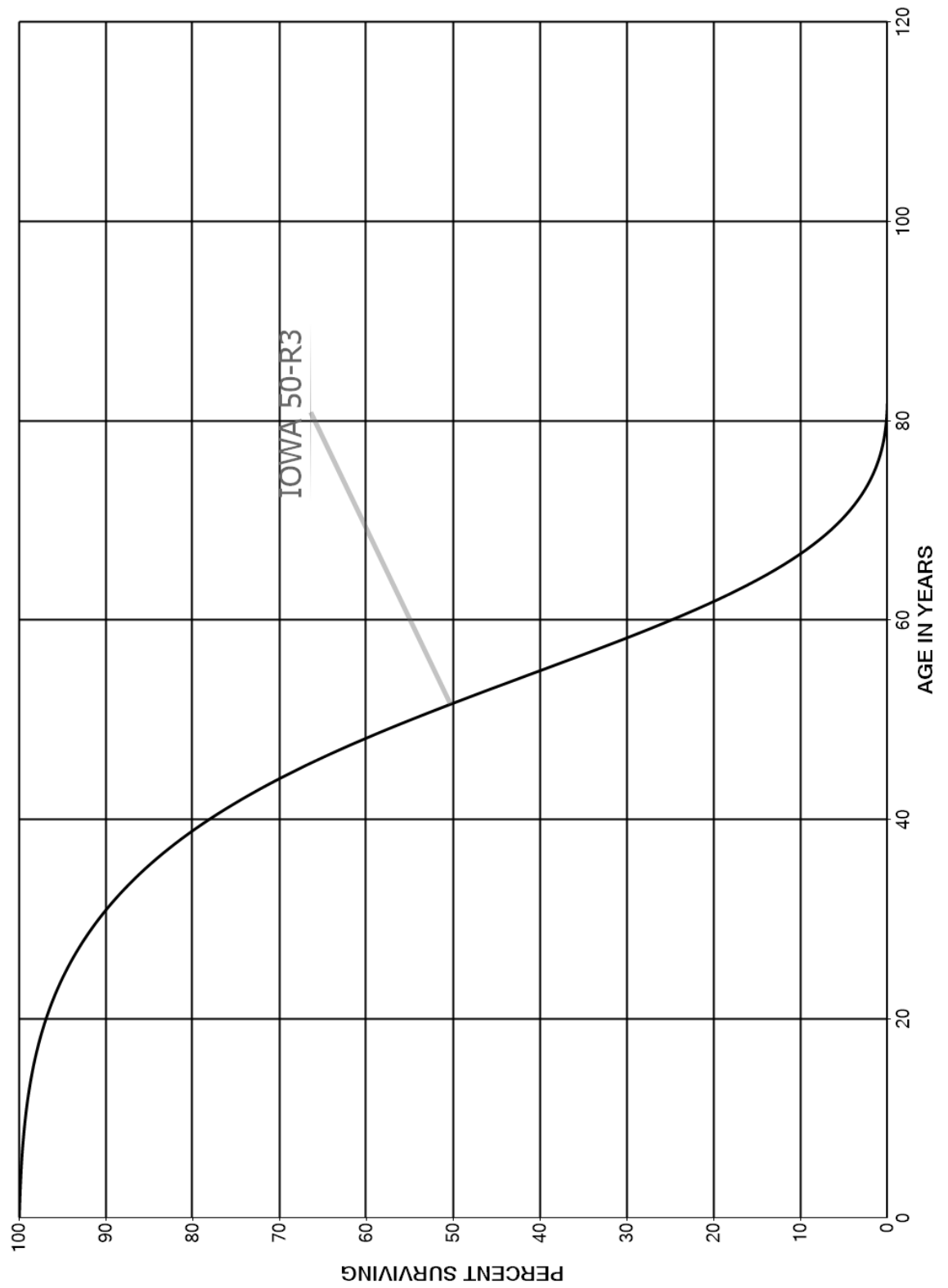
ORIGINAL LIFE TABLE

PLACEMENT BAND 2006-2011

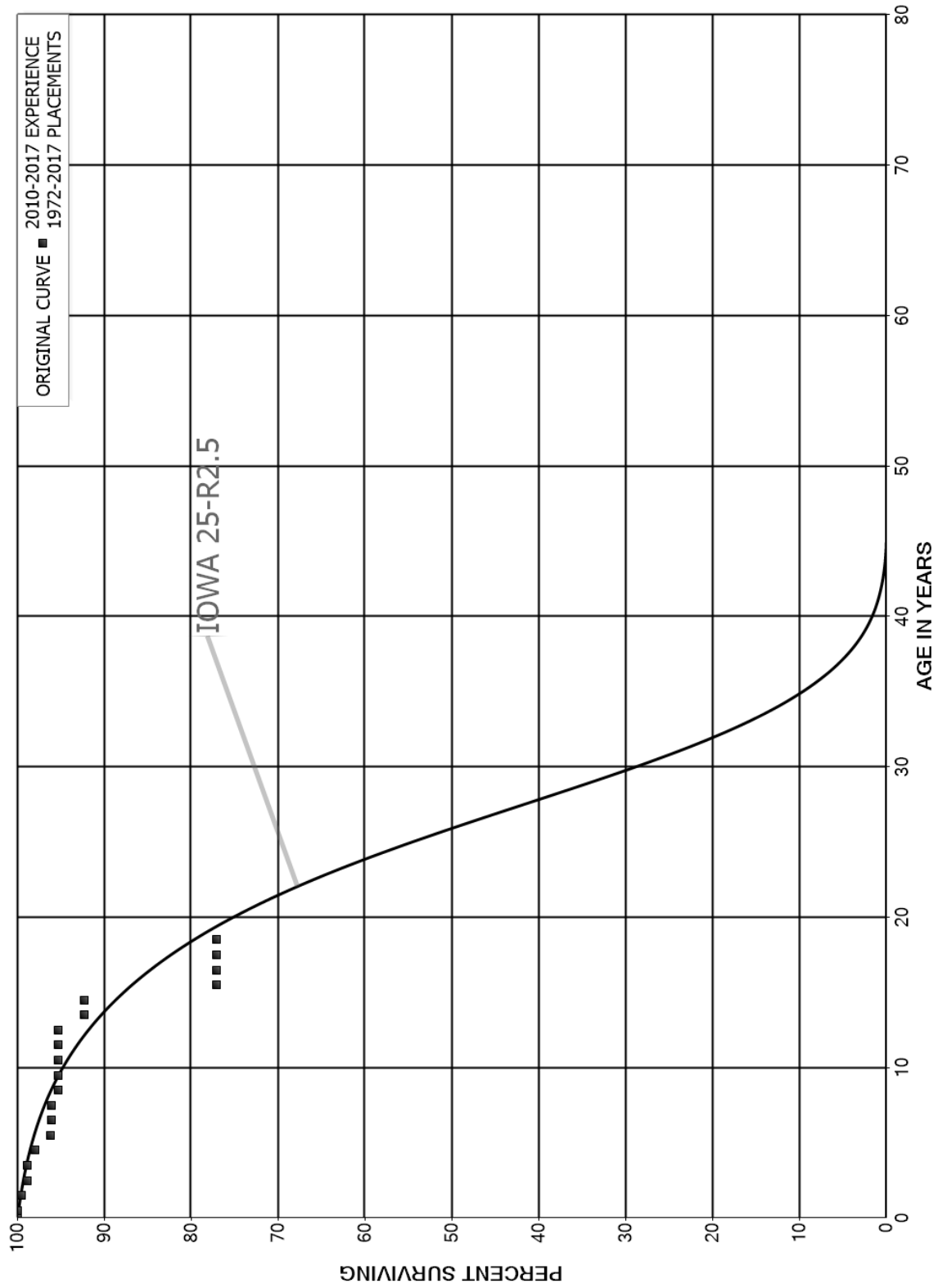
EXPERIENCE BAND 2011-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	627		0.0000	1.0000	100.00
0.5	627		0.0000	1.0000	100.00
1.5	627		0.0000	1.0000	100.00
2.5	2,887		0.0000	1.0000	100.00
3.5	7,931		0.0000	1.0000	100.00
4.5	36,713		0.0000	1.0000	100.00
5.5	36,713		0.0000	1.0000	100.00
6.5	36,086		0.0000	1.0000	100.00
7.5	36,086		0.0000	1.0000	100.00
8.5	36,086		0.0000	1.0000	100.00
9.5	33,826		0.0000	1.0000	100.00
10.5	28,782		0.0000	1.0000	100.00
11.5					100.00

AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNT 354.7 STRUCTURES AND IMPROVEMENTS - GENERAL  
 SMOOTH SURVIVOR CURVE



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS  
ACCOUNTS 355.2 THROUGH 355.4 POWER GENERATING EQUIPMENT  
ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 355.2 THROUGH 355.4 POWER GENERATING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1972-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	390,273		0.0000	1.0000	100.00
0.5	416,698	1,869	0.0045	0.9955	100.00
1.5	543,479	3,867	0.0071	0.9929	99.55
2.5	494,299	0	0.0000	1.0000	98.84
3.5	534,998	4,826	0.0090	0.9910	98.84
4.5	557,098	10,166	0.0182	0.9818	97.95
5.5	543,510	543	0.0010	0.9990	96.16
6.5	476,710		0.0000	1.0000	96.07
7.5	407,872	3,410	0.0084	0.9916	96.07
8.5	398,951		0.0000	1.0000	95.26
9.5	148,398		0.0000	1.0000	95.26
10.5	141,345		0.0000	1.0000	95.26
11.5	101,287		0.0000	1.0000	95.26
12.5	101,287	3,214	0.0317	0.9683	95.26
13.5	98,074		0.0000	1.0000	92.24
14.5	98,007	16,131	0.1646	0.8354	92.24
15.5	128,165		0.0000	1.0000	77.06
16.5	128,165		0.0000	1.0000	77.06
17.5	120,000		0.0000	1.0000	77.06
18.5					77.06
19.5					
20.5					
21.5					
22.5					
23.5					
24.5					
25.5					
26.5					
27.5					
28.5					
29.5					
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34.5					
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36.5					
37.5					
38.5					

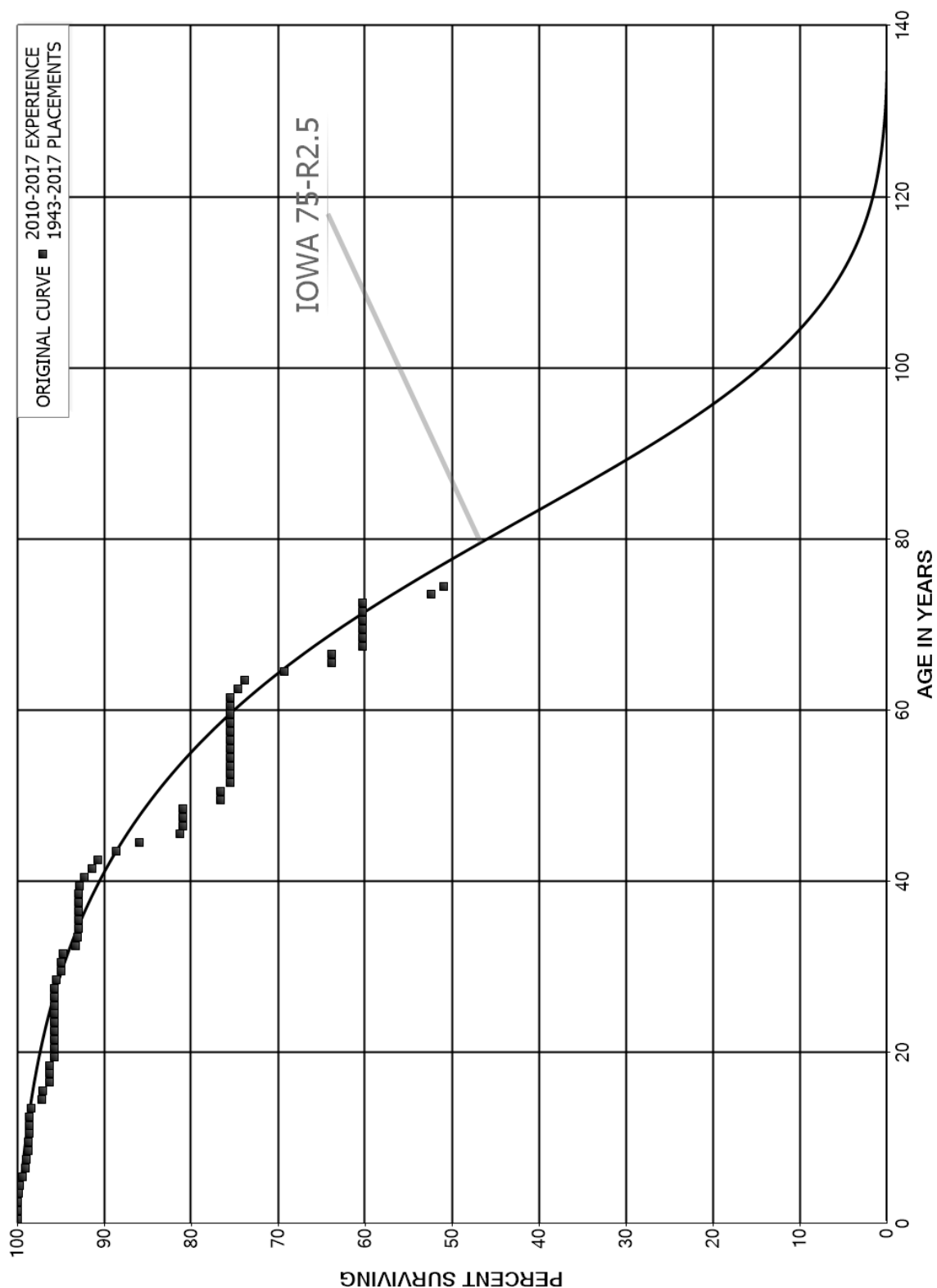
AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 355.2 THROUGH 355.4 POWER GENERATING EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1972-2017			EXPERIENCE BAND 2010-2017		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5					
40.5	13,608		0.0000		
41.5	13,608		0.0000		
42.5	13,608		0.0000		
43.5	13,608		0.0000		
44.5	13,608		0.0000		
45.5					

AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS  
ACCOUNTS 360 AND 361 - COLLECTION MAINS - FORCE AND GRAVITY  
ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 360 AND 361 - COLLECTION MAINS - FORCE AND GRAVITY

ORIGINAL LIFE TABLE

PLACEMENT BAND 1943-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	15,996,160		0.0000	1.0000	100.00
0.5	9,817,637	0	0.0000	1.0000	100.00
1.5	10,379,970	501	0.0000	1.0000	100.00
2.5	7,903,524	17,007	0.0022	0.9978	100.00
3.5	7,120,182	602	0.0001	0.9999	99.78
4.5	6,525,126	21,411	0.0033	0.9967	99.77
5.5	6,757,519	28,312	0.0042	0.9958	99.44
6.5	6,907,416	5,271	0.0008	0.9992	99.03
7.5	11,563,424	26,078	0.0023	0.9977	98.95
8.5	12,073,642	2,036	0.0002	0.9998	98.73
9.5	10,959,708	4,776	0.0004	0.9996	98.71
10.5	12,883,334		0.0000	1.0000	98.67
11.5	13,512,472	10,916	0.0008	0.9992	98.67
12.5	7,852,014	14,897	0.0019	0.9981	98.59
13.5	4,355,890	54,378	0.0125	0.9875	98.40
14.5	5,101,734	6,826	0.0013	0.9987	97.17
15.5	5,089,997	38,849	0.0076	0.9924	97.04
16.5	5,157,762		0.0000	1.0000	96.30
17.5	4,017,926		0.0000	1.0000	96.30
18.5	4,044,470	22,047	0.0055	0.9945	96.30
19.5	2,723,063		0.0000	1.0000	95.78
20.5	2,615,272		0.0000	1.0000	95.78
21.5	2,734,655		0.0000	1.0000	95.78
22.5	1,012,152		0.0000	1.0000	95.78
23.5	1,159,517		0.0000	1.0000	95.78
24.5	1,452,252		0.0000	1.0000	95.78
25.5	1,592,077		0.0000	1.0000	95.78
26.5	2,190,183		0.0000	1.0000	95.78
27.5	1,918,013	4,463	0.0023	0.9977	95.78
28.5	2,149,972	13,121	0.0061	0.9939	95.56
29.5	2,315,956		0.0000	1.0000	94.97
30.5	3,189,169	7,385	0.0023	0.9977	94.97
31.5	4,575,534	68,924	0.0151	0.9849	94.75
32.5	4,731,241	14,002	0.0030	0.9970	93.33
33.5	4,685,663	6,089	0.0013	0.9987	93.05
34.5	4,093,664		0.0000	1.0000	92.93
35.5	3,303,952		0.0000	1.0000	92.93
36.5	1,898,586		0.0000	1.0000	92.93
37.5	787,007		0.0000	1.0000	92.93
38.5	748,261	675	0.0009	0.9991	92.93



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 360 AND 361 - COLLECTION MAINS - FORCE AND GRAVITY

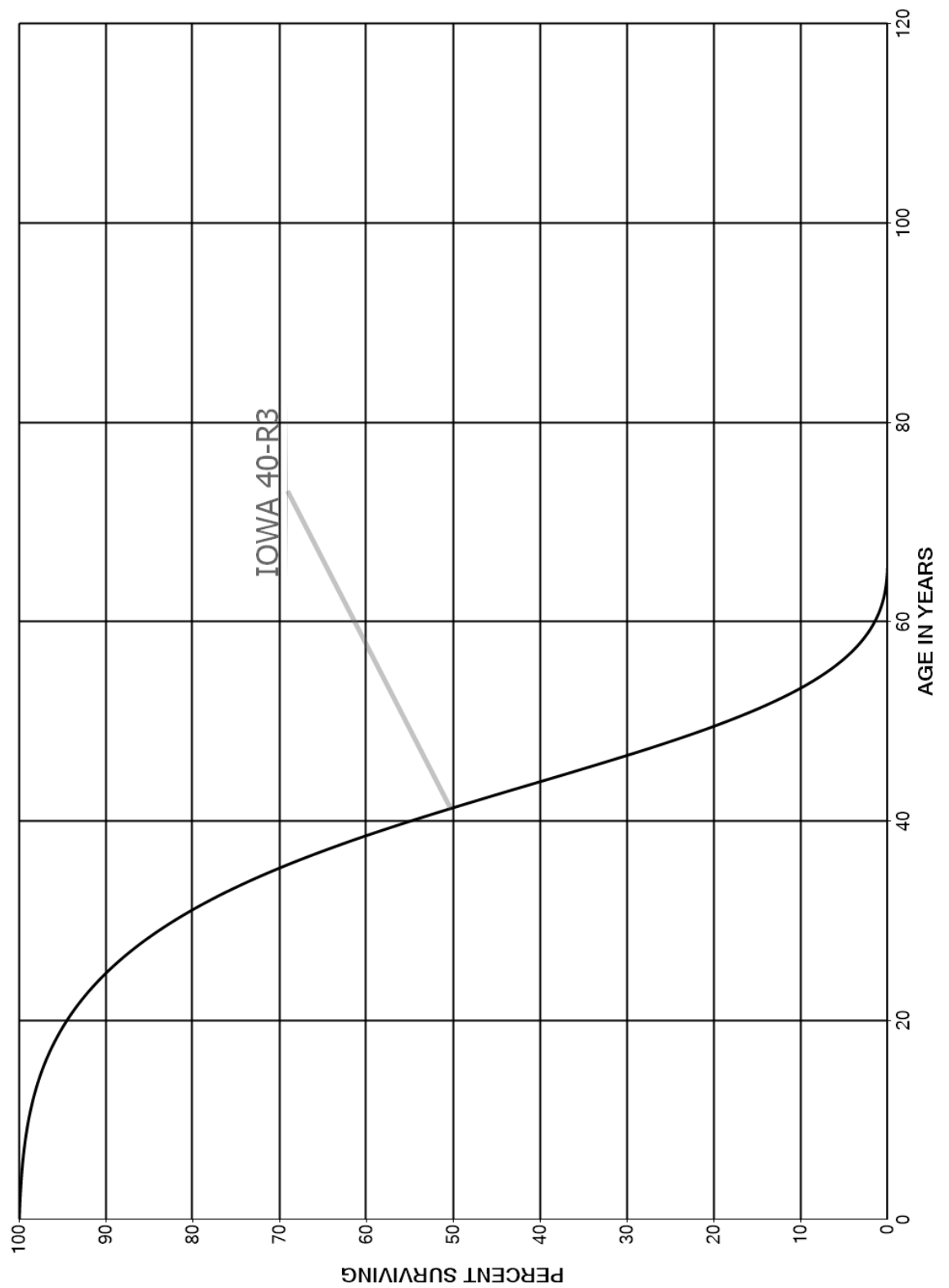
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1943-2017

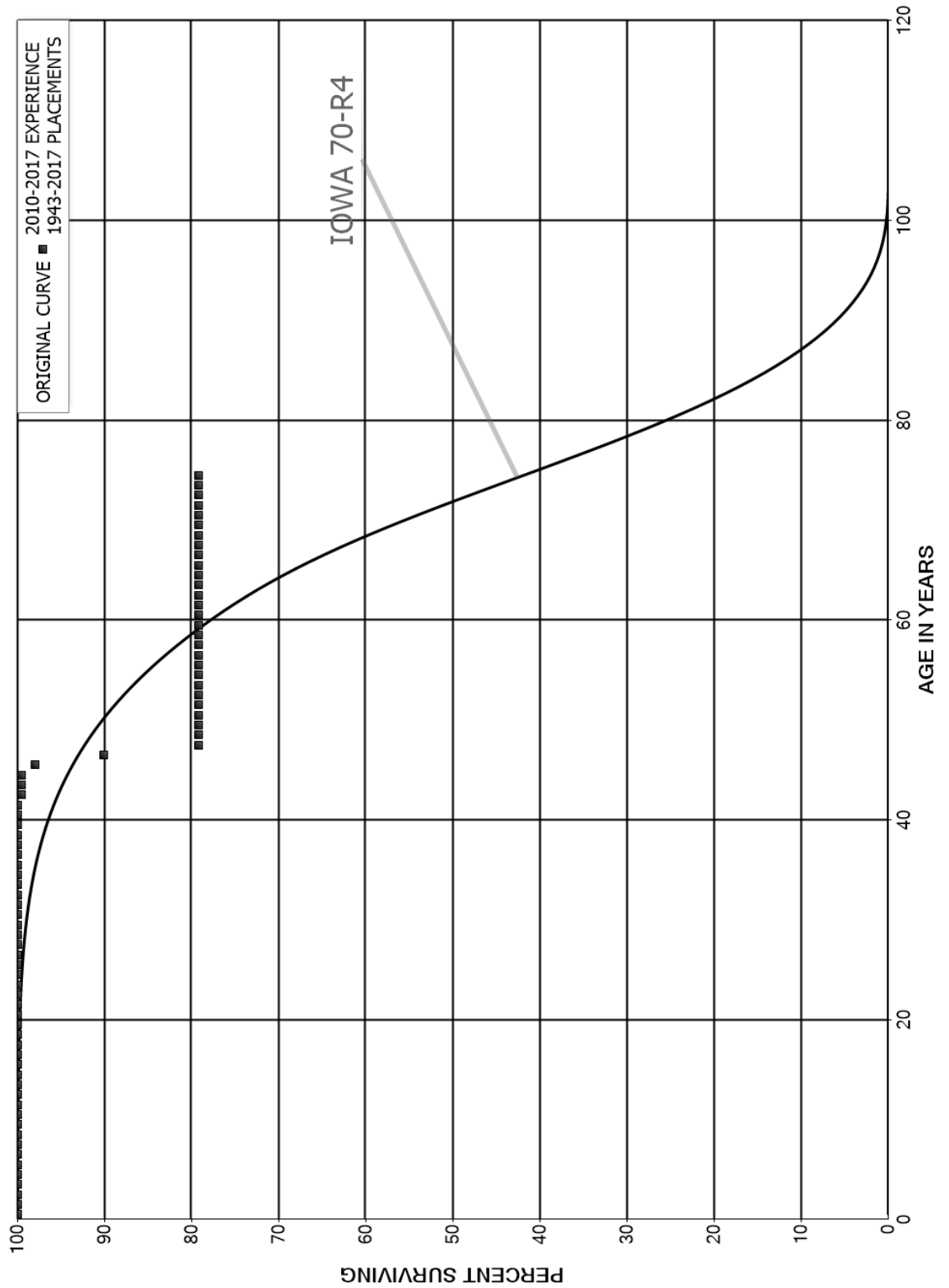
EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,327,693	8,451	0.0064	0.9936	92.84
40.5	2,188,537	20,857	0.0095	0.9905	92.25
41.5	2,301,907	15,115	0.0066	0.9934	91.37
42.5	2,191,376	52,787	0.0241	0.9759	90.77
43.5	2,133,054	62,534	0.0293	0.9707	88.59
44.5	1,453,359	79,155	0.0545	0.9455	85.99
45.5	449,770	1,695	0.0038	0.9962	81.31
46.5	173,512		0.0000	1.0000	81.00
47.5	108,439		0.0000	1.0000	81.00
48.5	108,439	5,909	0.0545	0.9455	81.00
49.5	122,967		0.0000	1.0000	76.59
50.5	133,941	1,870	0.0140	0.9860	76.59
51.5	207,546		0.0000	1.0000	75.52
52.5	50,943		0.0000	1.0000	75.52
53.5	50,943		0.0000	1.0000	75.52
54.5	63,623		0.0000	1.0000	75.52
55.5	44,091		0.0000	1.0000	75.52
56.5	59,997		0.0000	1.0000	75.52
57.5	23,654		0.0000	1.0000	75.52
58.5	12,681		0.0000	1.0000	75.52
59.5	600,366		0.0000	1.0000	75.52
60.5	600,366	12	0.0000	1.0000	75.52
61.5	642,094	8,105	0.0126	0.9874	75.52
62.5	579,569	5,613	0.0097	0.9903	74.56
63.5	573,956	35,569	0.0620	0.9380	73.84
64.5	538,387	41,982	0.0780	0.9220	69.26
65.5	496,404	493	0.0010	0.9990	63.86
66.5	536,053	29,911	0.0558	0.9442	63.80
67.5	40,141		0.0000	1.0000	60.24
68.5	40,141		0.0000	1.0000	60.24
69.5	40,141		0.0000	1.0000	60.24
70.5	40,141		0.0000	1.0000	60.24
71.5	58,091		0.0000	1.0000	60.24
72.5	40,141	5,234	0.1304	0.8696	60.24
73.5	34,907	932	0.0267	0.9733	52.39
74.5					50.99

AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNT 362 SPECIAL COLLECTING STRUCTURES  
 SMOOTH SURVIVOR CURVE



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS  
ACCOUNT 363 SERVICES  
ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 363 SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1943-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,511,339		0.0000	1.0000	100.00
0.5	1,322,032		0.0000	1.0000	100.00
1.5	1,258,144		0.0000	1.0000	100.00
2.5	1,064,617		0.0000	1.0000	100.00
3.5	1,016,113		0.0000	1.0000	100.00
4.5	989,078		0.0000	1.0000	100.00
5.5	1,100,135		0.0000	1.0000	100.00
6.5	1,102,716		0.0000	1.0000	100.00
7.5	3,362,564		0.0000	1.0000	100.00
8.5	3,625,685	775	0.0002	0.9998	100.00
9.5	3,552,572		0.0000	1.0000	99.98
10.5	3,859,193		0.0000	1.0000	99.98
11.5	3,844,684		0.0000	1.0000	99.98
12.5	1,370,315		0.0000	1.0000	99.98
13.5	1,056,916		0.0000	1.0000	99.98
14.5	1,066,882		0.0000	1.0000	99.98
15.5	1,067,717		0.0000	1.0000	99.98
16.5	779,784		0.0000	1.0000	99.98
17.5	681,287		0.0000	1.0000	99.98
18.5	406,255		0.0000	1.0000	99.98
19.5	254,947		0.0000	1.0000	99.98
20.5	127,825		0.0000	1.0000	99.98
21.5	133,448		0.0000	1.0000	99.98
22.5	79,549		0.0000	1.0000	99.98
23.5	146,334		0.0000	1.0000	99.98
24.5	169,875		0.0000	1.0000	99.98
25.5	296,931		0.0000	1.0000	99.98
26.5	284,248		0.0000	1.0000	99.98
27.5	472,422		0.0000	1.0000	99.98
28.5	1,065,631		0.0000	1.0000	99.98
29.5	1,374,998		0.0000	1.0000	99.98
30.5	1,375,420		0.0000	1.0000	99.98
31.5	1,410,267		0.0000	1.0000	99.98
32.5	1,364,838		0.0000	1.0000	99.98
33.5	950,870		0.0000	1.0000	99.98
34.5	871,429		0.0000	1.0000	99.98
35.5	836,245		0.0000	1.0000	99.98
36.5	805,933		0.0000	1.0000	99.98
37.5	694,345		0.0000	1.0000	99.98
38.5	681,103		0.0000	1.0000	99.98

AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 363 SERVICES

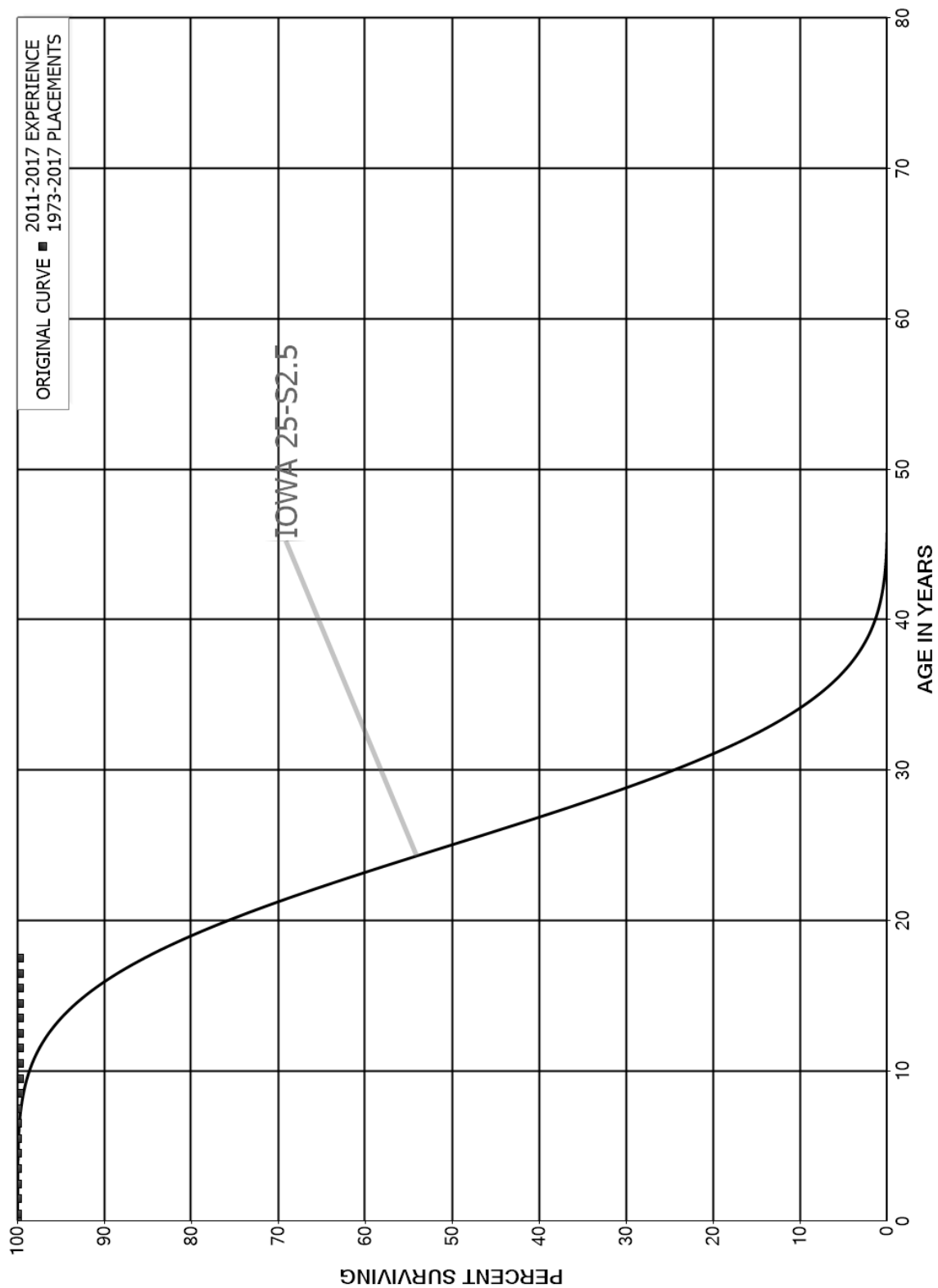
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1943-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	588,590		0.0000	1.0000	99.98
40.5	521,955		0.0000	1.0000	99.98
41.5	376,113	1,782	0.0047	0.9953	99.98
42.5	188,525		0.0000	1.0000	99.50
43.5	66,015		0.0000	1.0000	99.50
44.5	61,544	960	0.0156	0.9844	99.50
45.5	11,861	957	0.0807	0.9193	97.95
46.5	10,074	1,217	0.1208	0.8792	90.05
47.5	3,076		0.0000	1.0000	79.17
48.5	3,076		0.0000	1.0000	79.17
49.5	5,373		0.0000	1.0000	79.17
50.5	9,689		0.0000	1.0000	79.17
51.5	14,235		0.0000	1.0000	79.17
52.5	8,302		0.0000	1.0000	79.17
53.5	8,302		0.0000	1.0000	79.17
54.5	12,475		0.0000	1.0000	79.17
55.5	10,786		0.0000	1.0000	79.17
56.5	15,947		0.0000	1.0000	79.17
57.5	8,490		0.0000	1.0000	79.17
58.5	4,173		0.0000	1.0000	79.17
59.5	6,337		0.0000	1.0000	79.17
60.5	6,337		0.0000	1.0000	79.17
61.5	13,817		0.0000	1.0000	79.17
62.5	2,164		0.0000	1.0000	79.17
63.5	2,164		0.0000	1.0000	79.17
64.5	2,164		0.0000	1.0000	79.17
65.5	2,164		0.0000	1.0000	79.17
66.5	18,061		0.0000	1.0000	79.17
67.5	15,897		0.0000	1.0000	79.17
68.5	15,897		0.0000	1.0000	79.17
69.5	15,897		0.0000	1.0000	79.17
70.5	15,897		0.0000	1.0000	79.17
71.5	21,412		0.0000	1.0000	79.17
72.5	15,897		0.0000	1.0000	79.17
73.5	15,897		0.0000	1.0000	79.17
74.5					79.17

AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNT 364 METERS  
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 364 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1973-2017

EXPERIENCE BAND 2011-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	40,826		0.0000	1.0000	100.00
0.5	20,552		0.0000	1.0000	100.00
1.5	50,096		0.0000	1.0000	100.00
2.5	51,189		0.0000	1.0000	100.00
3.5	56,956		0.0000	1.0000	100.00
4.5	57,573		0.0000	1.0000	100.00
5.5	57,899		0.0000	1.0000	100.00
6.5	60,884		0.0000	1.0000	100.00
7.5	114,648	326	0.0028	0.9972	100.00
8.5	97,053		0.0000	1.0000	99.72
9.5	75,128		0.0000	1.0000	99.72
10.5	68,787		0.0000	1.0000	99.72
11.5	68,787		0.0000	1.0000	99.72
12.5	68,787		0.0000	1.0000	99.72
13.5	65,802		0.0000	1.0000	99.72
14.5	3,828		0.0000	1.0000	99.72
15.5	3,828		0.0000	1.0000	99.72
16.5	3,828		0.0000	1.0000	99.72
17.5					99.72
18.5					
19.5					
20.5					
21.5					
22.5					
23.5					
24.5					
25.5					
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5					
37.5	710		0.0000		
38.5	710		0.0000		

AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 364 METERS

ORIGINAL LIFE TABLE, CONT.

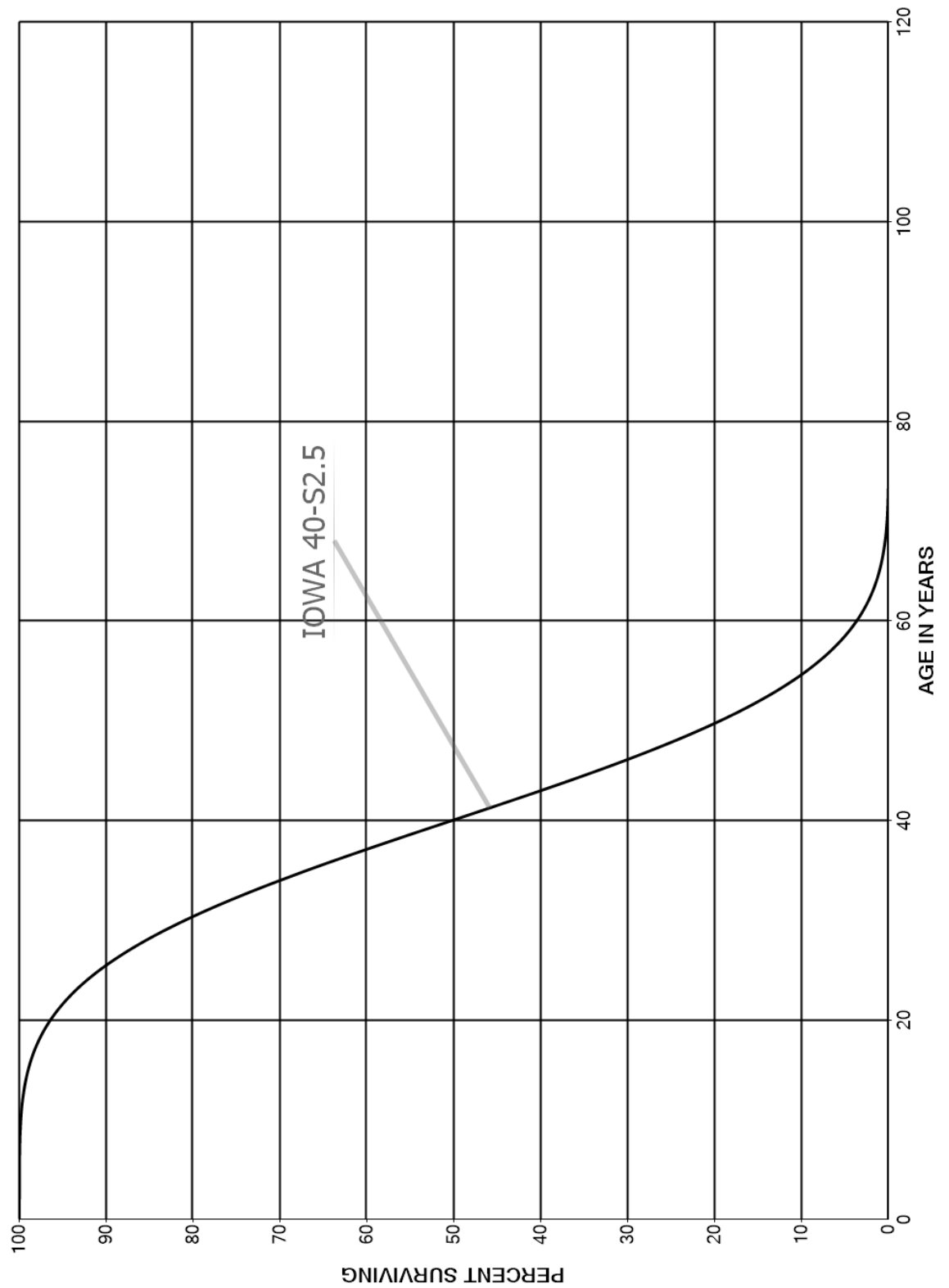
PLACEMENT BAND 1973-2017

EXPERIENCE BAND 2011-2017

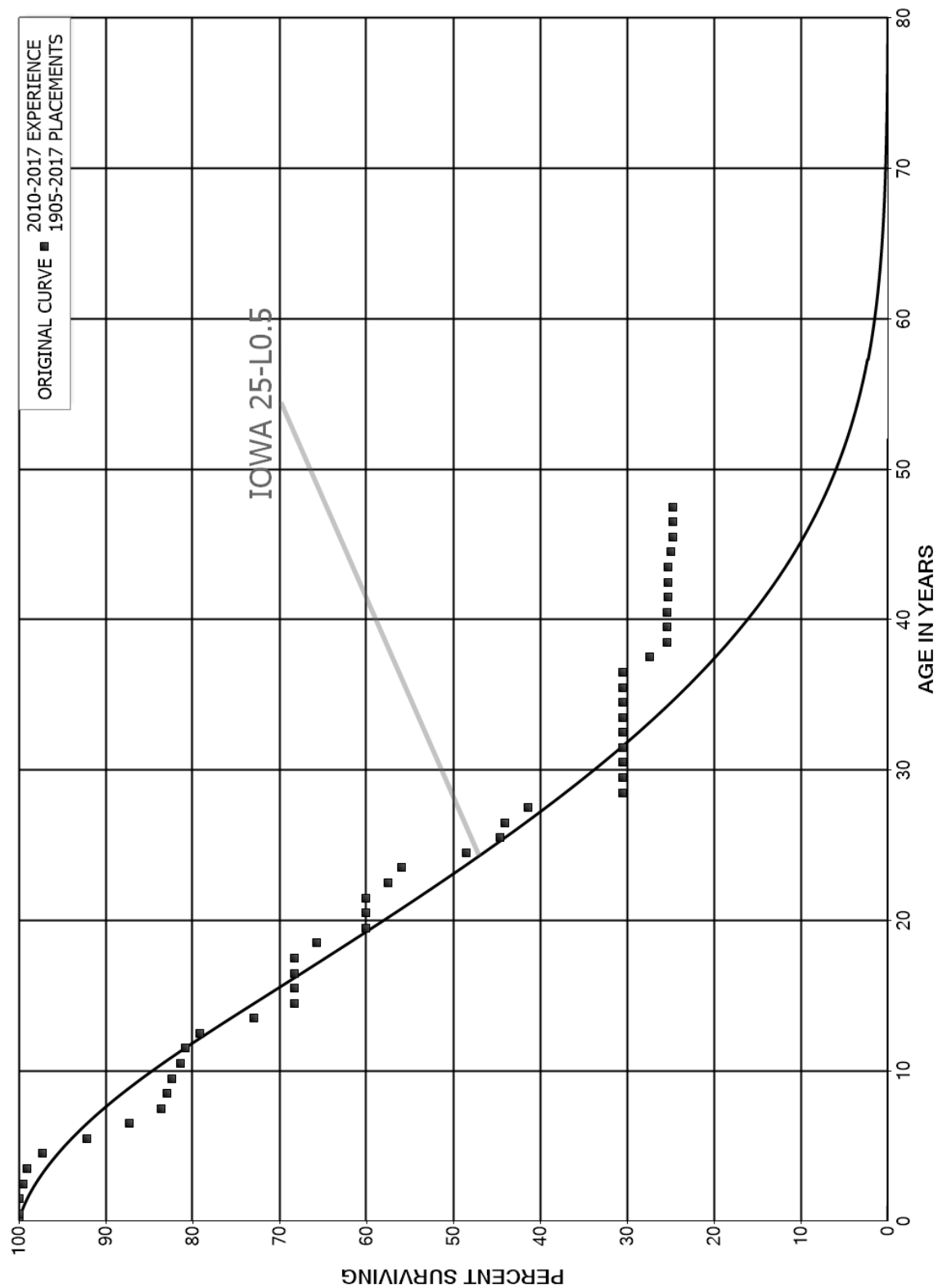
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	710		0.0000		
40.5	710		0.0000		
41.5	710		0.0000		
42.5	710		0.0000		
43.5	710		0.0000		
44.5					



AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNT 370 RECEIVING WELLS  
 SMOOTH SURVIVOR CURVE



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS  
ACCOUNTS 371.3 AND 371.5 PUMPING EQUIPMENT  
ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 371.3 AND 371.5 PUMPING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1905-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	3,397,816		0.0000	1.0000	100.00
0.5	4,092,747	952	0.0002	0.9998	100.00
1.5	3,615,772	18,684	0.0052	0.9948	99.98
2.5	3,097,690	12,096	0.0039	0.9961	99.46
3.5	2,633,036	48,269	0.0183	0.9817	99.07
4.5	2,413,995	125,611	0.0520	0.9480	97.26
5.5	2,274,801	122,151	0.0537	0.9463	92.19
6.5	1,755,020	72,135	0.0411	0.9589	87.24
7.5	4,117,720	33,901	0.0082	0.9918	83.66
8.5	3,105,571	20,505	0.0066	0.9934	82.97
9.5	2,959,009	37,675	0.0127	0.9873	82.42
10.5	2,872,624	20,575	0.0072	0.9928	81.37
11.5	2,799,081	55,428	0.0198	0.9802	80.79
12.5	186,364	14,808	0.0795	0.9205	79.19
13.5	200,094	12,768	0.0638	0.9362	72.90
14.5	189,298		0.0000	1.0000	68.25
15.5	1,171,780		0.0000	1.0000	68.25
16.5	1,047,009		0.0000	1.0000	68.25
17.5	1,037,742	38,624	0.0372	0.9628	68.25
18.5	31,583	2,693	0.0853	0.9147	65.71
19.5	43,137		0.0000	1.0000	60.10
20.5	81,726		0.0000	1.0000	60.10
21.5	70,074	3,051	0.0435	0.9565	60.10
22.5	66,671	1,841	0.0276	0.9724	57.49
23.5	64,830	8,546	0.1318	0.8682	55.90
24.5	56,285	4,525	0.0804	0.9196	48.53
25.5	51,760	621	0.0120	0.9880	44.63
26.5	51,139	3,081	0.0602	0.9398	44.09
27.5	42,235	11,195	0.2651	0.7349	41.44
28.5	17,281		0.0000	1.0000	30.45
29.5	138,140		0.0000	1.0000	30.45
30.5	7,478		0.0000	1.0000	30.45
31.5	25,429		0.0000	1.0000	30.45
32.5	25,429		0.0000	1.0000	30.45
33.5	25,429		0.0000	1.0000	30.45
34.5	31,213		0.0000	1.0000	30.45
35.5	31,213		0.0000	1.0000	30.45
36.5	30,249	2,993	0.0990	0.9010	30.45
37.5	27,633	2,021	0.0731	0.9269	27.44
38.5	25,613		0.0000	1.0000	25.43

AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 371.3 AND 371.5 PUMPING EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1905-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	75,029		0.0000	1.0000	25.43
40.5	75,029	555	0.0074	0.9926	25.43
41.5	74,474		0.0000	1.0000	25.25
42.5	73,704		0.0000	1.0000	25.25
43.5	73,704	739	0.0100	0.9900	25.25
44.5	72,966	720	0.0099	0.9901	24.99
45.5	78,528		0.0000	1.0000	24.75
46.5	78,528		0.0000	1.0000	24.75
47.5					24.75
48.5					
49.5					
50.5					
51.5					
52.5					
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5					
60.5					
61.5					
62.5					
63.5					
64.5					
65.5					
66.5					
67.5					
68.5					
69.5					
70.5					
71.5					
72.5					
73.5					
74.5					
75.5					
76.5					
77.5					
78.5					

AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 371.3 AND 371.5 PUMPING EQUIPMENT

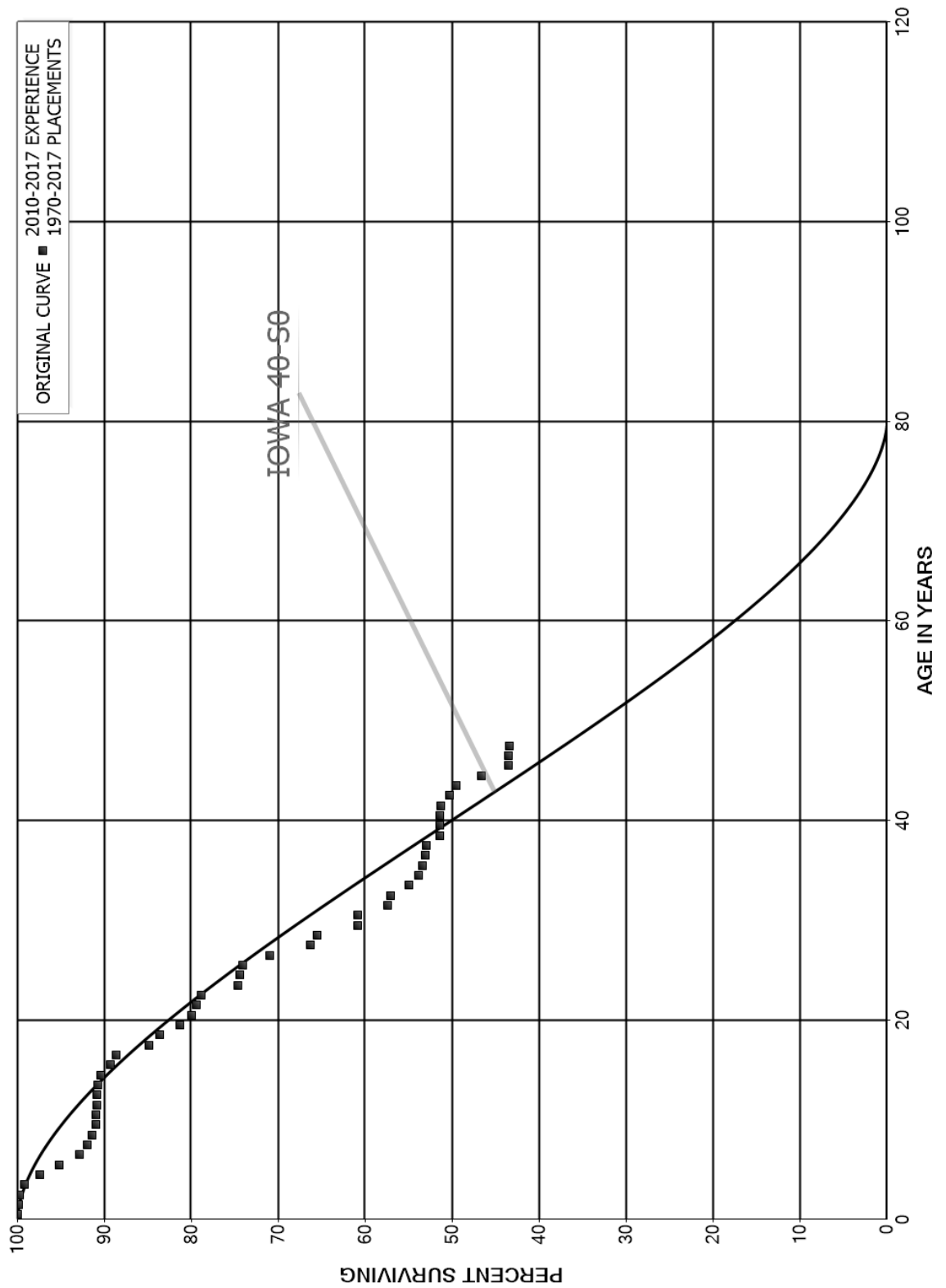
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1905-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5					
80.5					
81.5					
82.5					
83.5					
84.5					
85.5					
86.5					
87.5					
88.5					
89.5					
90.5					
91.5					
92.5					
93.5					
94.5					
95.5					
96.5					
97.5					
98.5					
99.5					
100.5					
101.5					
102.5					
103.5					
104.5	209,621		0.0000		
105.5	209,621		0.0000		
106.5	209,621		0.0000		
107.5	209,621	171	0.0008		
108.5	209,449	611	0.0029		
109.5	208,838		0.0000		
110.5	208,838	358	0.0017		
111.5	208,480	488	0.0023		
112.5					

AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNT 380 TREATMENT AND DISPOSAL EQUIPMENT  
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 380 TREATMENT AND DISPOSAL EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1970-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	13,621,639		0.0000	1.0000	100.00
0.5	8,927,926	13,388	0.0015	0.9985	100.00
1.5	5,461,305	7,760	0.0014	0.9986	99.85
2.5	2,738,060	13,642	0.0050	0.9950	99.71
3.5	2,308,322	43,518	0.0189	0.9811	99.21
4.5	2,077,670	47,140	0.0227	0.9773	97.34
5.5	1,863,779	44,228	0.0237	0.9763	95.13
6.5	1,364,357	12,858	0.0094	0.9906	92.87
7.5	3,936,063	27,676	0.0070	0.9930	92.00
8.5	3,594,706	14,803	0.0041	0.9959	91.35
9.5	5,387,317	651	0.0001	0.9999	90.98
10.5	5,313,389	8,168	0.0015	0.9985	90.97
11.5	5,251,372	537	0.0001	0.9999	90.83
12.5	4,182,224	5,815	0.0014	0.9986	90.82
13.5	4,173,673	15,874	0.0038	0.9962	90.69
14.5	1,420,554	16,236	0.0114	0.9886	90.35
15.5	416,396	3,225	0.0077	0.9923	89.31
16.5	478,183	20,293	0.0424	0.9576	88.62
17.5	465,660	6,990	0.0150	0.9850	84.86
18.5	965,467	26,904	0.0279	0.9721	83.59
19.5	2,187,839	34,683	0.0159	0.9841	81.26
20.5	2,188,728	16,804	0.0077	0.9923	79.97
21.5	2,209,278	14,350	0.0065	0.9935	79.35
22.5	879,147	47,460	0.0540	0.9460	78.84
23.5	711,084	1,801	0.0025	0.9975	74.58
24.5	1,007,851	4,204	0.0042	0.9958	74.39
25.5	708,877	30,315	0.0428	0.9572	74.08
26.5	160,048	10,528	0.0658	0.9342	70.92
27.5	300,605	3,491	0.0116	0.9884	66.25
28.5	316,039	22,313	0.0706	0.9294	65.48
29.5	263,224		0.0000	1.0000	60.86
30.5	395,542	22,157	0.0560	0.9440	60.86
31.5	265,814	1,978	0.0074	0.9926	57.45
32.5	731,115	26,806	0.0367	0.9633	57.02
33.5	670,214	13,867	0.0207	0.9793	54.93
34.5	614,752	4,770	0.0078	0.9922	53.79
35.5	730,592	4,945	0.0068	0.9932	53.38
36.5	721,235	251	0.0003	0.9997	53.02
37.5	930,596	27,462	0.0295	0.9705	53.00
38.5	892,915	53	0.0001	0.9999	51.43

AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 380 TREATMENT AND DISPOSAL EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

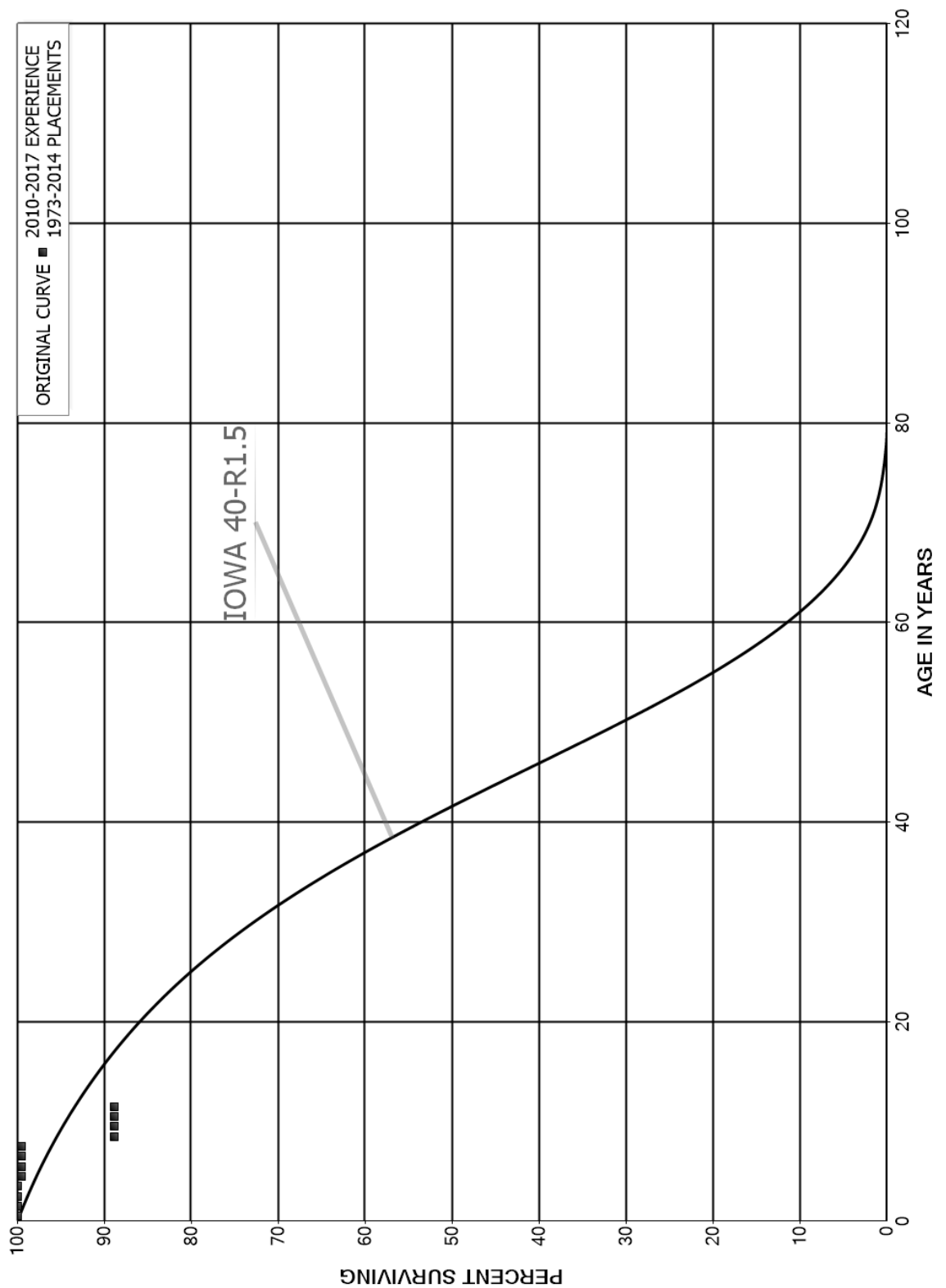
PLACEMENT BAND 1970-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,168,274	134	0.0001	0.9999	51.43
40.5	1,172,732	4,299	0.0037	0.9963	51.42
41.5	1,168,433	22,069	0.0189	0.9811	51.24
42.5	1,146,365	18,264	0.0159	0.9841	50.27
43.5	990,877	56,252	0.0568	0.9432	49.47
44.5	684,491	45,609	0.0666	0.9334	46.66
45.5	74,364		0.0000	1.0000	43.55
46.5	74,364	254	0.0034	0.9966	43.55
47.5					43.40



AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNTS 381.4 AND 381.5 PLANT SEWERS  
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 381.4 AND 381.5 PLANT SEWERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1973-2014

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	48,618		0.0000	1.0000	100.00
0.5	59,837		0.0000	1.0000	100.00
1.5	72,616		0.0000	1.0000	100.00
2.5	96,852		0.0000	1.0000	100.00
3.5	118,414	584	0.0049	0.9951	100.00
4.5	86,095		0.0000	1.0000	99.51
5.5	86,095		0.0000	1.0000	99.51
6.5	86,095		0.0000	1.0000	99.51
7.5	83,846	8,988	0.1072	0.8928	99.51
8.5	63,640		0.0000	1.0000	88.84
9.5	51,445		0.0000	1.0000	88.84
10.5	27,208		0.0000	1.0000	88.84
11.5					88.84
12.5					
13.5					
14.5					
15.5					
16.5					
17.5					
18.5					
19.5					
20.5					
21.5					
22.5					
23.5					
24.5					
25.5					
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5					
37.5					
38.5					

AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 381.4 AND 381.5 PLANT SEWERS

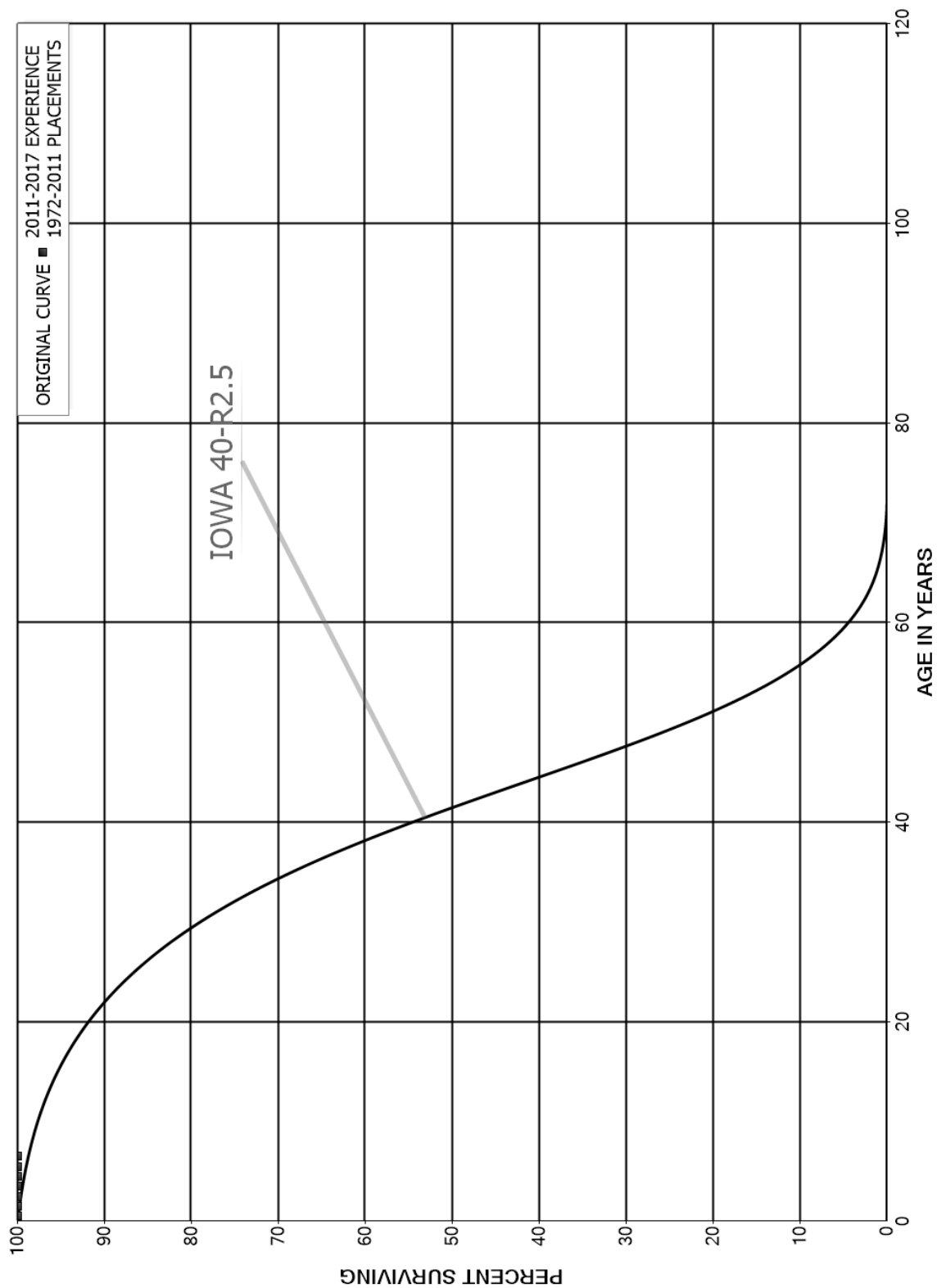
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1973-2014

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	5,163		0.0000		
40.5	5,163		0.0000		
41.5	5,163		0.0000		
42.5	5,163		0.0000		
43.5	5,163		0.0000		
44.5					

AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNT 382 OUTFALL LINES  
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 382 OUTFALL LINES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1972-2011

EXPERIENCE BAND 2011-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	7,619		0.0000	1.0000	100.00
0.5	7,619		0.0000	1.0000	100.00
1.5	7,619		0.0000	1.0000	100.00
2.5	7,619		0.0000	1.0000	100.00
3.5	7,619		0.0000	1.0000	100.00
4.5	7,619		0.0000	1.0000	100.00
5.5	7,619		0.0000	1.0000	100.00
6.5					100.00
7.5	20,192		0.0000		
8.5	20,192		0.0000		
9.5	35,788		0.0000		
10.5	35,788		0.0000		
11.5	35,788		0.0000		
12.5	35,788		0.0000		
13.5	35,788		0.0000		
14.5					
15.5					
16.5					
17.5					
18.5					
19.5					
20.5					
21.5					
22.5					
23.5					
24.5					
25.5					
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5					
37.5					
38.5	9,638		0.0000		

AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 382 OUTFALL LINES

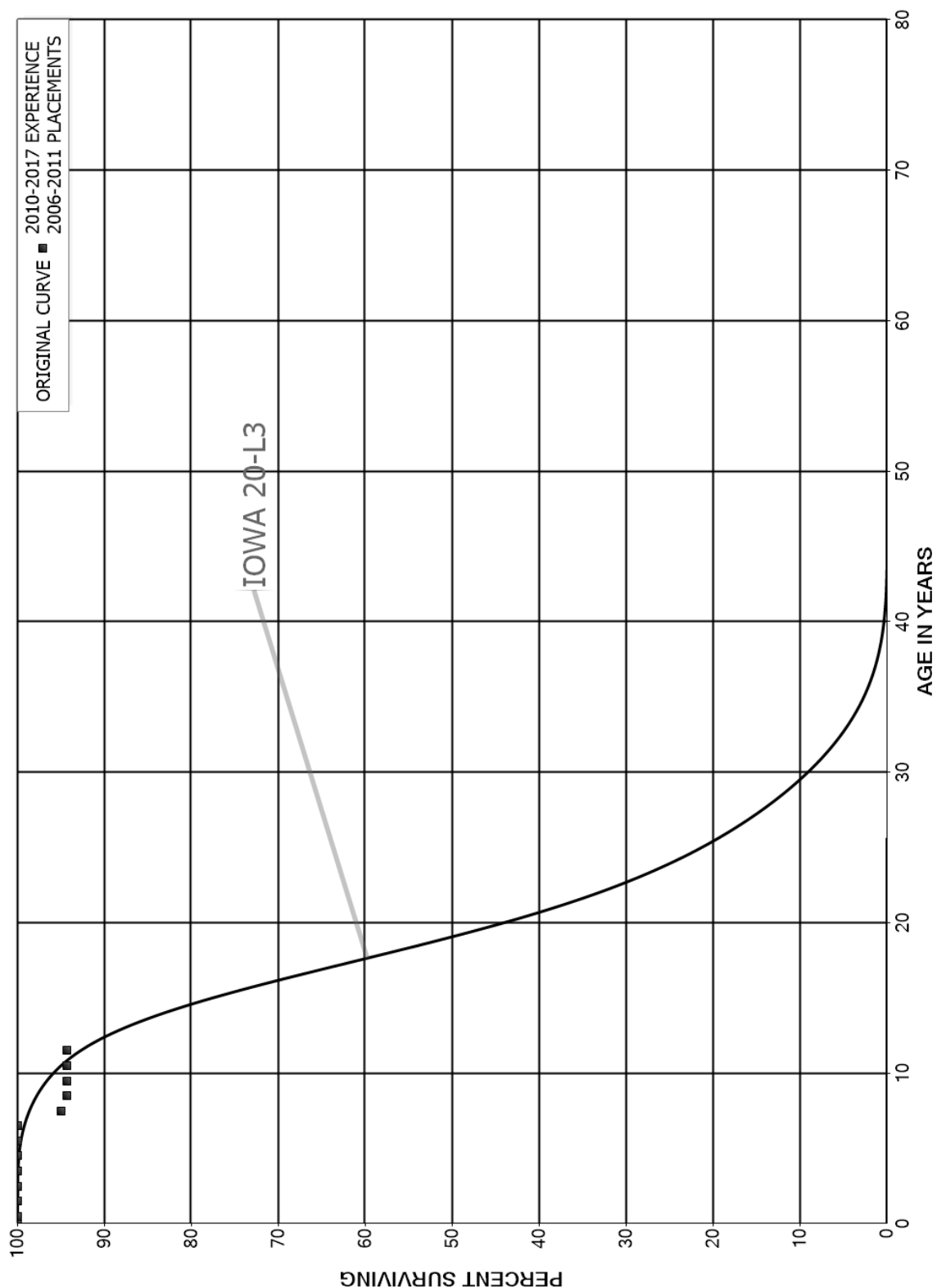
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1972-2011

EXPERIENCE BAND 2011-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	14,801		0.0000		
40.5	14,801		0.0000		
41.5	14,801		0.0000		
42.5	14,801		0.0000		
43.5	14,801		0.0000		
44.5	9,638		0.0000		
45.5					

AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNT 389.2 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - COLLECTION  
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 389.2 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - COLLECTION

ORIGINAL LIFE TABLE

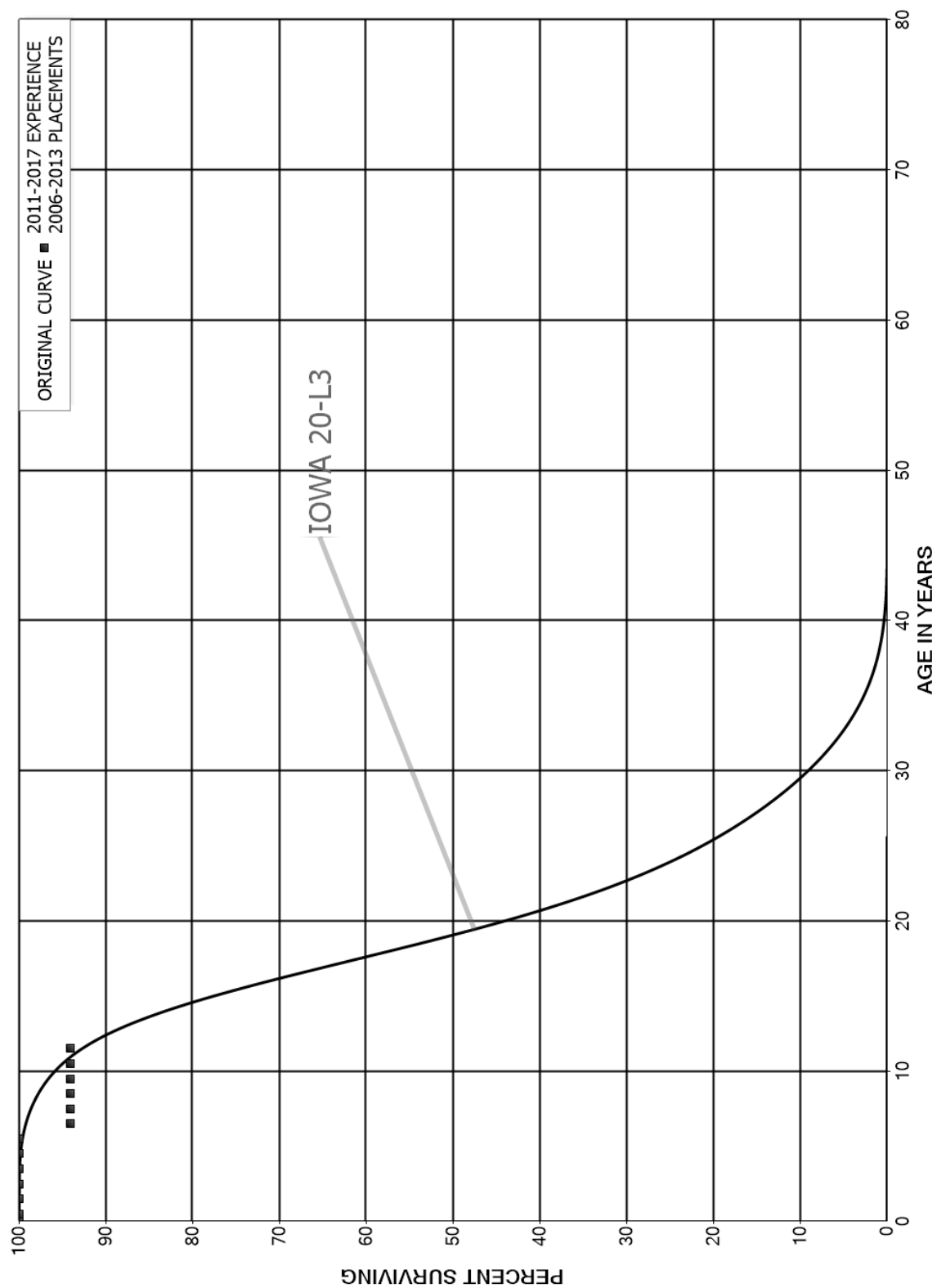
PLACEMENT BAND 2006-2011

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	358,061		0.0000	1.0000	100.00
0.5	358,061		0.0000	1.0000	100.00
1.5	358,061		0.0000	1.0000	100.00
2.5	358,061		0.0000	1.0000	100.00
3.5	699,183		0.0000	1.0000	100.00
4.5	699,183		0.0000	1.0000	100.00
5.5	699,183		0.0000	1.0000	100.00
6.5	697,664	35,151	0.0504	0.9496	100.00
7.5	341,122	2,624	0.0077	0.9923	94.96
8.5	338,498		0.0000	1.0000	94.23
9.5	338,498		0.0000	1.0000	94.23
10.5	329,059		0.0000	1.0000	94.23
11.5					94.23



AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNT 389.3 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - PUMPING  
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 389.3 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - PUMPING

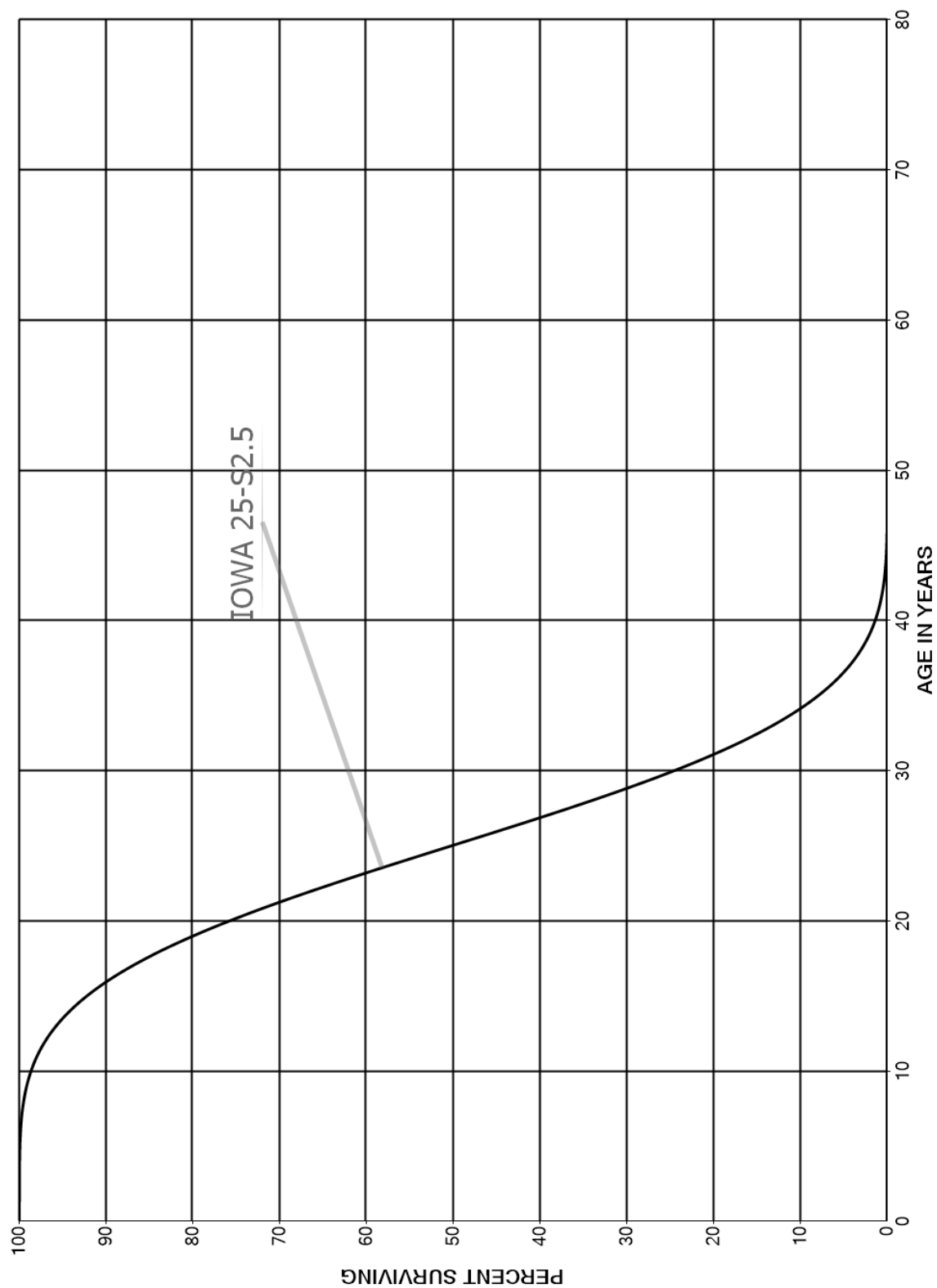
ORIGINAL LIFE TABLE

PLACEMENT BAND 2006-2013

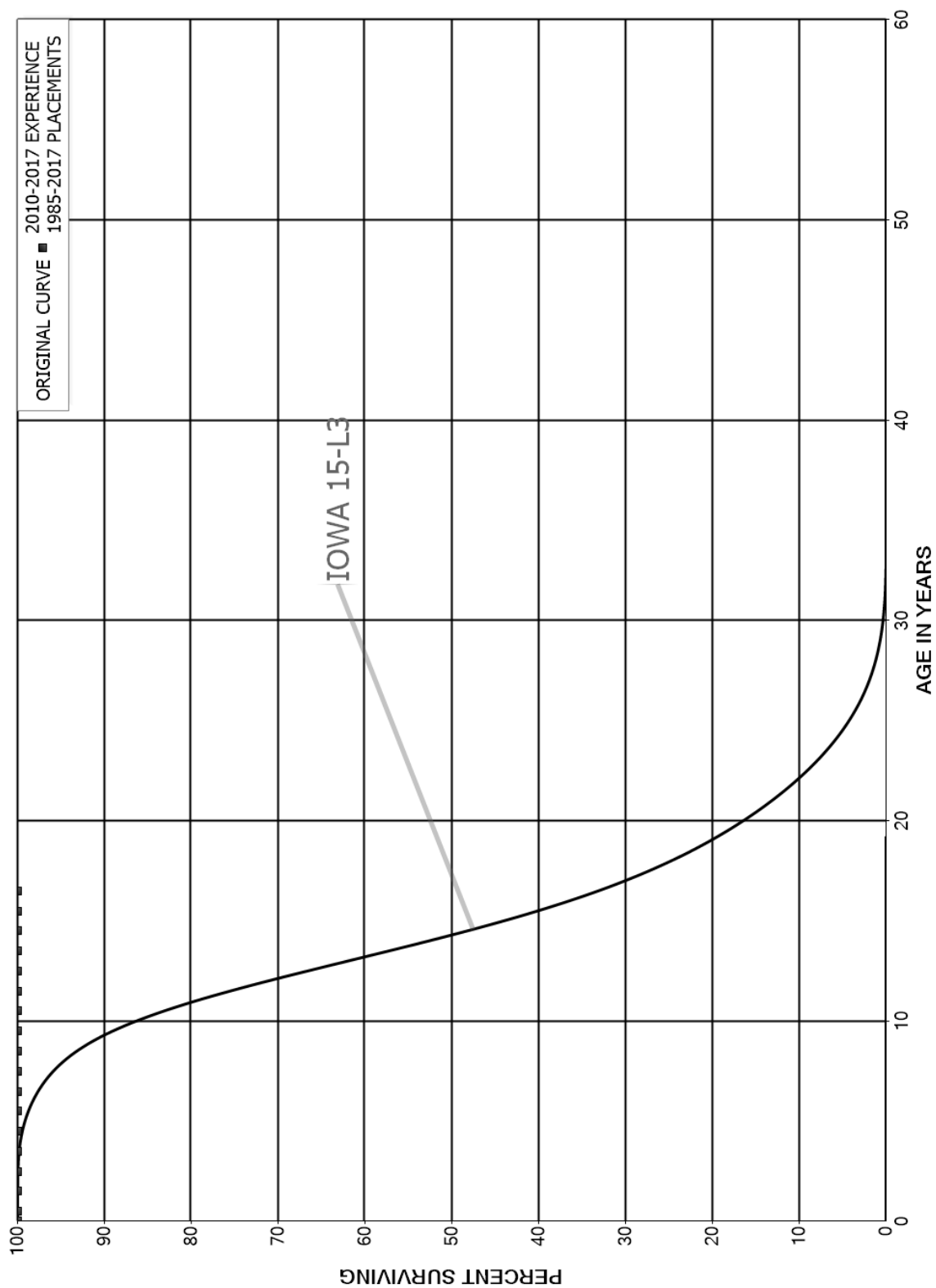
EXPERIENCE BAND 2011-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	48,489		0.0000	1.0000	100.00
0.5	48,489		0.0000	1.0000	100.00
1.5	49,019		0.0000	1.0000	100.00
2.5	49,425		0.0000	1.0000	100.00
3.5	51,999		0.0000	1.0000	100.00
4.5	19,941		0.0000	1.0000	100.00
5.5	21,572	1,289	0.0598	0.9402	100.00
6.5	18,882		0.0000	1.0000	94.02
7.5	18,476		0.0000	1.0000	94.02
8.5	17,124		0.0000	1.0000	94.02
9.5	16,105		0.0000	1.0000	94.02
10.5	12,722		0.0000	1.0000	94.02
11.5					94.02

AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNT 389.4 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - TREATMENT AND DISPOSAL  
 SMOOTH SURVIVOR CURVE



AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNT 391 TRANSPORTATION EQUIPMENT  
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 391 TRANSPORTATION EQUIPMENT

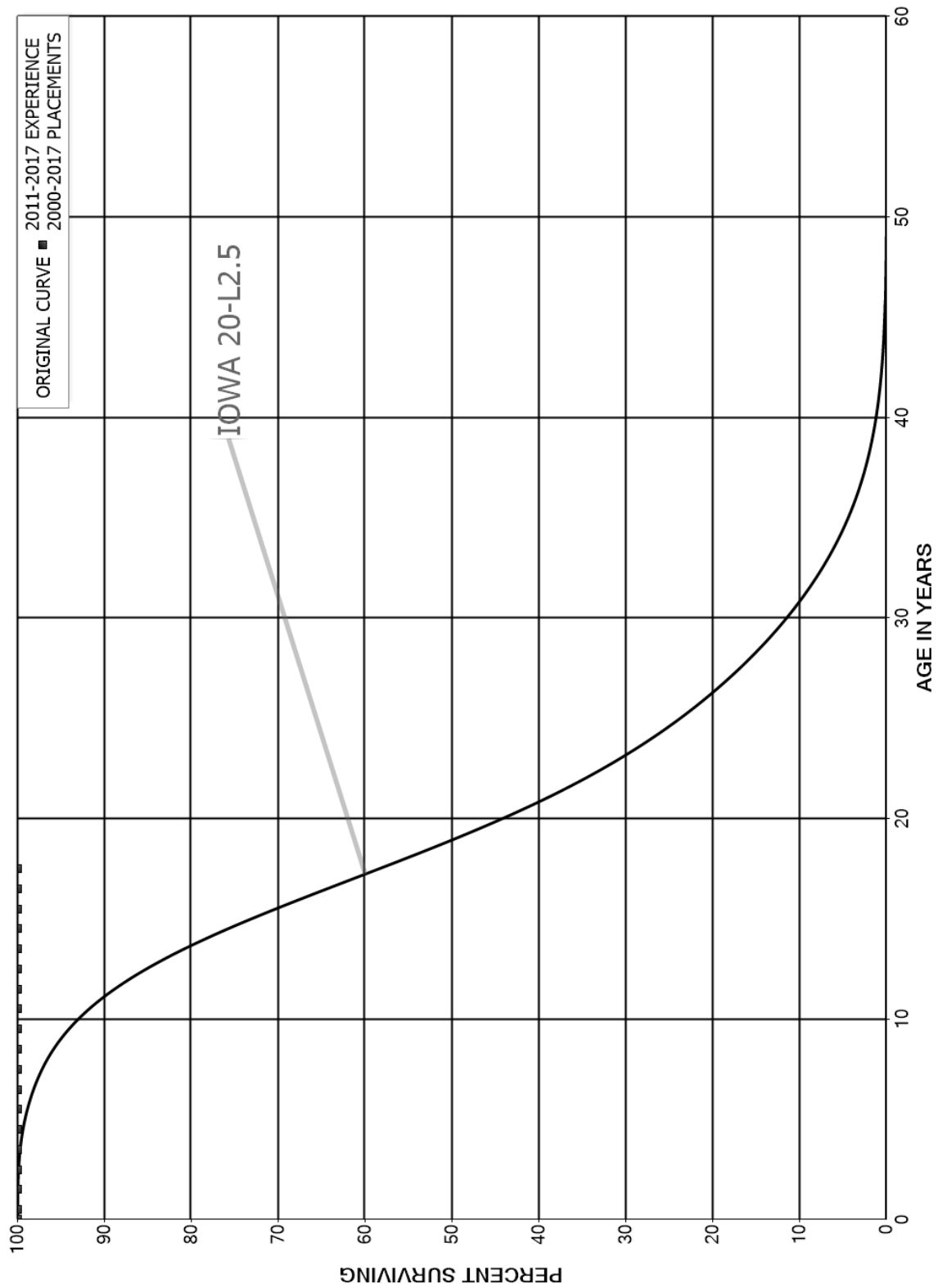
ORIGINAL LIFE TABLE

PLACEMENT BAND 1985-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	245,886		0.0000	1.0000	100.00
0.5	150,034		0.0000	1.0000	100.00
1.5	96,065		0.0000	1.0000	100.00
2.5	153,794		0.0000	1.0000	100.00
3.5	156,001		0.0000	1.0000	100.00
4.5	67,667		0.0000	1.0000	100.00
5.5	32,509		0.0000	1.0000	100.00
6.5	16,690		0.0000	1.0000	100.00
7.5	0		0.0000	1.0000	100.00
8.5	0		0.0000	1.0000	100.00
9.5	0		0.0000	1.0000	100.00
10.5	0		0.0000	1.0000	100.00
11.5	0		0.0000	1.0000	100.00
12.5	0		0.0000	1.0000	100.00
13.5	0		0.0000	1.0000	100.00
14.5	0		0.0000	1.0000	100.00
15.5	0		0.0000	1.0000	100.00
16.5					100.00
17.5					
18.5					
19.5					
20.5	12,000		0.0000		
21.5	12,000		0.0000		
22.5	12,000		0.0000		
23.5	30,000		0.0000		
24.5	30,000		0.0000		
25.5	30,000		0.0000		
26.5	12,000		0.0000		
27.5	12,000		0.0000		
28.5	0		0.0000		
29.5	0		0.0000		
30.5	0		0.0000		
31.5	0		0.0000		
32.5					

AQUA PENNSYLVANIA, INC.  
 ALL OTHER WASTEWATER OPERATIONS  
 ACCOUNT 395 POWER OPERATED EQUIPMENT  
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.  
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 395 POWER OPERATED EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 2000-2017

EXPERIENCE BAND 2011-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	31,894		0.0000	1.0000	100.00
0.5	25,379		0.0000	1.0000	100.00
1.5	25,379		0.0000	1.0000	100.00
2.5	29,146		0.0000	1.0000	100.00
3.5	35,489		0.0000	1.0000	100.00
4.5	39,705		0.0000	1.0000	100.00
5.5	101,182		0.0000	1.0000	100.00
6.5	85,120		0.0000	1.0000	100.00
7.5	121,064		0.0000	1.0000	100.00
8.5	117,705		0.0000	1.0000	100.00
9.5	111,075		0.0000	1.0000	100.00
10.5	46,138		0.0000	1.0000	100.00
11.5	42,694		0.0000	1.0000	100.00
12.5	42,033		0.0000	1.0000	100.00
13.5	39,049		0.0000	1.0000	100.00
14.5	30,076		0.0000	1.0000	100.00
15.5	30,076		0.0000	1.0000	100.00
16.5	30,076		0.0000	1.0000	100.00
17.5					100.00

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## **PART VII. DETAILED DEPRECIATION CALCULATIONS**



**CUMULATIVE DEPRECIATED ORIGINAL COST**

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	PCT OF COL 4 TOTAL (6)
1960	2,917,040	2,399,485	517,555	517,555	2.6
1963	16,669,251	11,310,275	5,358,976	5,876,531	29.5
1970	5,961,583	3,686,739	2,274,844	8,151,375	40.9
1971	6,028,116	4,323,646	1,704,470	9,855,845	49.5
1975	3,342,888	2,083,452	1,259,436	11,115,281	55.8
1978	317,562	173,982	143,580	11,258,862	56.5
1979	464,781	248,817	215,964	11,474,825	57.6
1980	1,000,127	526,901	473,226	11,948,051	59.9
1981	92,483	47,919	44,564	11,992,616	60.2
1983	162,983	80,895	82,088	12,074,704	60.6
1985	591,313	311,038	280,275	12,354,979	62.0
1986	835,552	388,357	447,195	12,802,174	64.2
1990	778,292	369,191	409,101	13,211,275	66.3
1993	127,380	49,366	78,014	13,289,288	66.7
1994	1,213,732	548,220	665,512	13,954,800	70.0
1996	4,041,133	2,225,639	1,815,494	15,770,294	79.1
1998	2,621	2,621	0	15,770,294	79.1
1999	104,683	76,077	28,606	15,798,900	79.3
2000	427,991	147,382	280,609	16,079,509	80.7
2001	6,755	4,490	2,265	16,081,773	80.7
2003	424,854	116,083	308,771	16,390,545	82.2
2004	1,329	1,054	275	16,390,820	82.2
2005	28,654	20,396	8,258	16,399,078	82.3
2006	202,720	51,932	150,788	16,549,865	83.0
2007	1,207,430	269,782	937,648	17,487,513	87.7
2008	2,148	1,319	829	17,488,342	87.7
2009	167,544	40,530	127,014	17,615,357	88.4
2010	28,576	6,814	21,762	17,637,119	88.5
2011	16,187	5,547	10,640	17,647,759	88.5
2012	1,768,370	407,626	1,360,744	19,008,503	95.4
2013	19,452	5,836	13,616	19,022,119	95.4
2014	28,766	8,739	20,027	19,042,146	95.5
2015	33,236	8,335	24,901	19,067,047	95.7
2016	12,919	2,883	10,036	19,077,083	95.7
2018	22,417	3,585	18,832	19,095,915	95.8
2021	639,570	15,291	624,279	19,720,194	98.9
2022	213,405	905	212,500	19,932,695	100.0
SUBTOTAL	49,903,843	29,971,149	19,932,695		
NONDEPRECIABLE	340,711				
TOTAL	50,244,554	29,971,149	19,932,695		

## UTILITY PLANT IN SERVICE

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 354.3 STRUCTURES AND IMPROVEMENTS - PUMPING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 60-S1						
NET SALVAGE PERCENT.. 0						
1960	2,271,711.28	1,795,561	1,861,260	410,451	16.38	25,058
1975	779,114.04	531,823	551,282	227,832	21.74	10,480
1994	440,663.71	213,986	221,816	218,848	29.39	7,446
2012	1,115,572.99	221,887	230,006	885,567	39.27	22,551
	4,607,062.02	2,763,257	2,864,364	1,742,698		65,535
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						26.6 1.42

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 355.3 POWER GENERATING EQUIPMENT - PUMPING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 25-R2.5						
NET SALVAGE PERCENT.. 0						
1960	264,951.85	264,952	264,952			
1975	102,167.54	102,168	102,168			
1985	19,919.30	18,740	16,217	3,702	2.31	1,603
1994	51,095.13	43,952	38,035	13,060	4.51	2,896
1996	410,562.12	341,465	295,495	115,067	5.21	22,086
2007	40,884.01	23,578	20,404	20,480	10.83	1,891
2009	35,958.59	18,476	15,989	19,970	12.06	1,656
2012	137,803.93	56,569	48,953	88,851	14.00	6,346
	1,063,342.47	869,900	802,213	261,130		36,478
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.2						3.43

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 360 COLLECTION MAINS - FORCE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R2.5						
NET SALVAGE PERCENT.. 0						
1963	1,420,455.97	1,009,802	947,222	473,234	23.89	19,809
1975	646,731.85	390,044	365,872	280,860	30.77	9,128
1994	178,664.79	70,394	66,032	112,633	42.68	2,639
2012	176,608.62	26,862	25,197	151,412	54.35	2,786
	2,422,461.23	1,497,102	1,404,323	1,018,138		34,362
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						29.6 1.42

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 361 COLLECTION MAINS - GRAVITY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R2.5						
NET SALVAGE PERCENT.. 0						
1963	15,248,794.65	10,840,368	10,363,053	4,885,742	23.89	204,510
1970	5,961,583.42	3,856,548	3,686,739	2,274,844	28.25	80,525
1975	1,653,041.49	996,949	953,052	699,989	30.77	22,749
1978	317,562.38	181,995	173,982	143,580	32.59	4,406
1979	464,780.60	260,277	248,817	215,964	33.59	6,429
1980	1,000,126.93	551,170	526,901	473,226	34.01	13,914
1981	92,483.35	50,126	47,919	44,564	34.44	1,294
1983	162,983.04	84,621	80,895	82,088	35.88	2,288
1985	406,925.28	201,876	192,987	213,938	37.33	5,731
1986	835,551.81	406,245	388,357	447,195	37.78	11,837
1993	127,379.70	51,640	49,366	78,014	42.17	1,850
1994	460,012.01	181,245	173,265	286,747	42.68	6,719
1996	220,438.35	81,165	77,591	142,847	44.18	3,233
2000	393,223.27	124,888	119,389	273,834	46.74	5,859
2003	420,258.79	116,622	111,487	308,772	48.82	6,325
2006	187,926.31	44,388	42,434	145,492	50.92	2,857
2007	1,164,244.14	259,277	247,861	916,383	51.48	17,801
2009	131,585.89	25,672	24,541	107,045	52.61	2,035
2010	21,848.06	3,954	3,780	18,068	53.18	340
2012	91,219.15	13,874	13,263	77,956	54.35	1,434
2021	356,363.31	4,775	4,565	351,798	55.43	6,347
2022	118,815.32	273	261	118,554	53.64	2,210
	29,837,147.25	18,337,948	17,530,505	12,306,642		410,693
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 30.0						1.38

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 363 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R4						
NET SALVAGE PERCENT.. 0						
1971	6,028,115.82	4,282,976	4,323,646	1,704,470	20.68	82,421
1990	778,291.98	365,719	369,191	409,101	35.82	11,421
2021	18,839.47	215	217	18,622	65.04	286
2022	6,279.85	12	12	6,267	65.66	95
	6,831,527.12	4,648,922	4,693,066	2,138,461		94,223
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						22.7 1.38



AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 364 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 25-S2.5						
NET SALVAGE PERCENT.. 0						
1960	31,054.84	31,055	31,055			
1975	23,151.99	22,946	20,195	2,957	0.42	2,957
1985	7,424.33	6,985	6,148	1,276	2.31	552
1994	15,379.54	13,316	11,719	3,661	4.30	851
1996	159,924.93	134,241	118,146	41,779	4.93	8,474
2001	6,754.59	5,102	4,490	2,265	6.72	337
2006	6,109.96	3,849	3,388	2,722	9.25	294
2010	5,684.19	2,825	2,486	3,198	11.89	269
2012	34,086.58	14,323	12,606	21,480	13.45	1,597
	289,570.95	234,642	210,233	79,338		15,331
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.2						5.29

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 371.3 PUMPING EQUIPMENT - PUMPING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 25-L0.5						
NET SALVAGE PERCENT.. 0						
1960	349,322.35	321,411	242,218	107,104	5.36	19,982
1975	138,681.26	120,597	90,883	47,798	7.01	6,819
1985	157,044.26	126,970	95,686	61,358	8.70	7,053
1994	67,916.97	49,566	37,353	30,564	10.27	2,976
1996	3,250,207.22	2,301,472	1,734,407	1,515,800	10.61	142,865
1999	57,876.89	38,841	29,271	28,606	11.15	2,566
2000	13,455.89	8,867	6,682	6,774	11.25	602
2005	3,370.08	1,959	1,476	1,894	12.07	157
2011	16,187.12	7,360	5,547	10,640	12.89	825
2012	182,688.45	78,008	58,788	123,900	13.08	9,472
2013	19,451.81	7,744	5,836	13,616	13.23	1,029
2014	24,835.05	9,124	6,876	17,959	13.35	1,345
2015	33,236.20	11,061	8,335	24,901	13.53	1,840
2016	12,919.26	3,825	2,883	10,036	13.67	734
2018	22,416.84	4,757	3,585	18,832	13.92	1,353
2021	263,507.09	13,913	10,484	253,023	13.45	18,812
2022	87,920.86	835	630	87,291	13.03	6,699

4,701,037.60	3,106,310	2,340,940	2,360,098	225,129
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COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.5    4.79

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 391 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 15-L3						
NET SALVAGE PERCENT.. 0						
1999	46,805.62	42,060	46,806			
2000	21,311.80	18,912	21,311			
	68,117.42	60,972	68,117			

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 0.0 0.00

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 394 LABORATORY EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
2004	1,329.15	944	1,054	275	7.25	38
2005	25,283.61	16,940	18,920	6,364	8.25	771
2006	8,683.64	5,471	6,110	2,574	9.25	278
2007	2,301.36	1,358	1,517	784	10.25	76
2008	2,148.16	1,181	1,319	829	11.25	74
2010	1,043.87	491	548	496	13.25	37
	40,789.79	26,385	29,468	11,322		1,274
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						8.9 3.12

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 395 POWER OPERATED EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 20-L2.5						
NET SALVAGE PERCENT.. 0						
2021	860.06	39	25	835	15.94	52
2022	389.25	3	2	387	16.54	23
	1,249.31	42	27	1,222		75
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.3 6.00						

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 396 COMMUNICATION EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2012	28,980.85	18,838	17,972	11,009	5.25	2,097
	28,980.85	18,838	17,972	11,009		2,097
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						5.2 7.24

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 397 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
1998	2,621.08	2,490	2,621			
2003	4,595.70	3,447	4,596			
2012	1,409.31	550	841	568	15.25	37
2014	3,931.00	1,219	1,863	2,068	17.25	120
	12,557.09	7,706	9,921	2,637		157
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						16.8 1.25

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**PART VIII. EXPERIENCED AND ESTIMATED  
NET SALVAGE**



AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

EXPERIENCED AND ESTIMATED RETIREMENTS BY ACCOUNT AND ASSOCIATED  
COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2017 TRANSACTION YEAR				
2018 TRANSACTION YEAR				
2019 TRANSACTION YEAR				
2020 TRANSACTION YEAR				
2021 TRANSACTION YEAR				
361.00		195.16		195.16-
363.00		140.86		140.86-
371.30	38,699.66	1,618.57		1,618.57-
	38,699.66	1,954.59		1,954.59-
TOTAL	38,699.66	1,954.59		1,954.59-

Exhibit No. 6-F, Part III  
Docket No. R-2021-3027385  
Docket No. R-2021-3027386  
Witness: J. J. Spanos

AQUA PENNSYLVANIA, INC.

BRYN MAWR, PENNSYLVANIA

EAST NORRITON OPERATIONS

2023 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS  
RELATED TO WASTEWATER PLANT  
AS OF MARCH 31, 2023

*Prepared by:*



*Excellence Delivered **As Promised***

Exhibit No. 6-F, Part III  
Docket No. R-2021-3027385  
Docket No. R-2021-3027386  
Witness: J. J. Spanos

AQUA PENNSYLVANIA, INC.

Bryn Mawr, Pennsylvania

EAST NORRITON OPERATIONS

2023 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS  
RELATED TO WASTEWATER PLANT  
AS OF MARCH 31, 2023

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania



*Excellence Delivered **As Promised***

August 13, 2021

Aqua Pennsylvania, Inc.  
762 Lancaster Avenue  
Bryn Mawr, PA 19010

Attention: William C. Packer  
Vice President, Regulatory Accounting & Regional Controller

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to wastewater plant as of March 31, 2023 for the East Norriton Operations. The results of our study as of March 31, 2022 are presented in our report titled "2022 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of March 31, 2022". The same methods, procedures and estimates are used in both studies.

Summaries of the original cost, annual accruals, book depreciation reserve and amortization of net salvage are presented in Tables 1 through 4, beginning on page I-3 of the attached report.

Respectfully submitted,

GANNETT FLEMING VALUATION  
AND RATE CONSULTANTS, LLC

A handwritten signature in black ink that reads "John J. Spanos".

JOHN J. SPANOS  
President

JJS:mle

067880.100

Gannett Fleming Valuation and Rate Consultants, LLC

207 Senate Avenue • Camp Hill, PA 17011-2316

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## TABLE OF CONTENTS

### **PART I. RESULTS OF STUDY**

Summary of Results .....	I-2
Description of Detailed Tabulations .....	I-2
Table 1. Summary of Estimated Survivor Curve, Original Cost, Book Depreciation Reserve and Calculated Annual Depreciation Accruals Related to Wastewater Plant as of March 31, 2023 .....	I-3
Table 2. Bringforward to March 31, 2023 of the Book Reserve as of March 31, 2022 .....	I-4
Table 3. Calculation of Depreciation Accruals for the Twelve Months Ended March 31, 2023 .....	I-5
Table 4. Amortization of Experienced and Estimated Net Salvage .....	I-6

### **PART II. DETAILED DEPRECIATION CALCULATIONS**

Cumulative Depreciated Original Cost.....	II-2
Utility Plant in Service .....	II-4

<b>PART III. EXPERIENCED AND ESTIMATED NET SALVAGE .....</b>	<b>III-1</b>
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## **PART I. RESULTS OF STUDY**

**AQUA PENNSYLVANIA, INC.**  
**DEPRECIATION STUDY**  
**PART I. RESULTS OF STUDY**

**SUMMARY OF RESULTS**

Tables 1 through 4 presented on pages I-3 through I-6 summarize the results of the depreciation study as of March 31, 2023 for the East Norriton Operations system. Table 1 sets forth, by depreciable group, the estimated survivor curve, original cost, book depreciation reserve as of March 31, 2023, future book accruals, calculated annual accrual amount and rate, and composite remaining life for plant in service. Table 2 presents the bringforward of the book reserve to March 31, 2023. Table 3 sets forth the calculation of the depreciation accruals for the twelve months ended March 31, 2023. Table 4 presents the annual amortization of experienced and estimated net salvage based on the period 2018 through 2022.

**DESCRIPTION OF DETAILED TABULATIONS**

The supporting data for the depreciation calculations are presented in account sequence in the section beginning on page II-2. The original cost, calculated accrued depreciation, allocated book reserve, future accruals, remaining life and annual accrual are shown for each vintage of each account or subaccount. The amounts of regular retirements, gross salvage and cost of removal are set forth by account for the years 2018 through 2022, beginning on page III-2.

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

**TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF MARCH 31, 2023**

	DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	ORIGINAL COST AS OF MARCH 31, 2023 (3)	BOOK DEPRECIATION RESERVE (4)	FUTURE ACCRUALS (5)	CALCULATED ANNUAL ACCRUAL		COMPOSITE REMAINING LIFE (8)=(5)/(6)
						AMOUNT (6)	RATE (7)=(6)/(3)	
INTANGIBLE PLANT								
351.00	ORGANIZATION	NONDEPR.	340,540.49					
TOTAL INTANGIBLE PLANT			340,540.49					
NONDEPRECIABLE PLANT								
353.30	LAND AND LAND RIGHTS - PUMPING	NONDEPR.	170.54					
TOTAL NONDEPRECIABLE PLANT			170.54					
DEPRECIABLE PLANT								
354.00	STRUCTURES AND IMPROVEMENTS PUMPING	60-S1	4,607,062.02	2,929,784	1,677,278	63,086	1.37	26.6
TOTAL ACCOUNT 354			4,607,062.02	2,929,784	1,677,278	63,086		
355.00	POWER GENERATING EQUIPMENT PUMPING	25-R2.5	1,063,342.47	838,686	224,657	32,805	3.09	6.8
TOTAL ACCOUNT 355			1,063,342.47	838,686	224,657	32,805		
360.00	COLLECTION MAINS - FORCE	75-R2.5	2,422,461.23	1,438,722	983,739	33,547	1.38	29.3
361.00	COLLECTION MAINS - GRAVITY	75-R2.5	35,250,876.25	17,541,871	17,709,005	509,284	1.44	34.8
363.00	SERVICES	70-R4	6,854,697.45	4,786,529	2,068,168	92,564	1.35	22.3
364.00	METERS	25-S2.5	289,570.95	225,552	64,019	12,104	4.18	5.3
371.30	PUMPING EQUIPMENT PUMPING	25-L0.5	4,701,037.60	2,566,470	2,134,567	204,647	4.35	10.4
TOTAL ACCOUNT 371.3			4,701,037.60	2,566,470	2,134,567	204,647		
391.00	TRANSPORTATION EQUIPMENT	15-L3	68,117.42	68,117	0	0	*	-
394.00	LABORATORY EQUIPMENT	25-SQ	40,789.79	31,100	9,690	1,229	**	7.9
395.00	POWER OPERATED EQUIPMENT	20-L2.5	1,249.31	102	1,147	74	5.92	15.5
396.00	COMMUNICATION EQUIPMENT - GENERAL	15-SQ	28,980.85	19,905	9,076	2,136	**	4.2
397.00	MISCELLANEOUS EQUIPMENT	25-SQ	9,936.01	7,771	2,165	137	**	15.8
TOTAL DEPRECIABLE PLANT			55,338,121.35	30,454,610	24,883,511	951,613		
AMORTIZATION OF NET SALVAGE						1,028		
TOTAL WASTEWATER PLANT IN SERVICE			55,678,832.38	30,454,610	24,883,511	952,641		

\* USE DEPRECIATION RATE OF 3.87% FOR ALL FUTURE ADDITIONS TO ACCOUNT 391.00 TRANSPORTATION EQUIPMENT

\*\* ACCRUALS CALCULATED FOR EACH ASSET BY THE COMPANY'S PROPERTY RECORD SYSTEM USING THE AMORTIZATION PERIOD SET FORTH IN COLUMN 2.





AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

TABLE 2. BRINGFORWARD TO MARCH 31, 2023 OF THE BOOK RESERVE AS OF MARCH 31, 2022

ACCOUNT (1)	BOOK RESERVE AS OF MARCH 31, 2022 (2)	+	DEPRECIATION ACCRUALS (3)	+	AMORTIZATION OF NET SALVAGE (4)	-	PROJECTED RETIREMENTS (5)	+	PROJECTED GROSS SALVAGE (6)	-	PROJECTED COST OF REMOVAL (7)	=	BOOK RESERVE AS OF MARCH 31, 2023 (8)
354.30	2,864,364		65,420										2,929,784
355.30	802,213		36,473										838,686
360.00	1,404,323		34,399										1,438,722
361.00	17,530,505		449,107		162		434,701				3,202		17,541,871
363.00	4,693,066		94,435		37		830				179		4,786,529
364.00	210,233		15,318										225,552
371.30	2,340,940		225,180		351								2,566,470
391.00	68,117												68,117
394.00	29,468		1,632										31,100
395.00	27		75										102
396.00	17,972		1,933										19,905
397.00	9,921		472				2,621						7,771
<b>TOTAL</b>	<b>29,971,149</b>		<b>924,443</b>		<b>550</b>		<b>438,152</b>		<b>0</b>		<b>3,381</b>		<b>30,454,610</b>



AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

TABLE 3. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED MARCH 31, 2023

ACCOUNT (1)	ORIGINAL COST AS OF MARCH 31, 2022 (2)	ORIGINAL COST AS OF MARCH 31, 2023 (3)	ANNUAL ACCRUAL RATE (4)	ANNUAL ACCRUAL AMOUNT * (5)
<b>UTILITY PLANT IN SERVICE</b>				
354.30 STRUCTURES AND IMPROVEMENTS - PUMPING	4,607,062.02	4,607,062.02	1.42	65,420
355.30 POWER GENERATING EQUIPMENT - PUMPING	1,063,342.47	1,063,342.47	3.43	36,473
360.00 COLLECTION MAINS - FORCE	2,422,461.23	2,422,461.23	1.42	34,399
361.00 COLLECTION MAINS - GRAVITY	29,837,147.25	35,250,876.25	1.38	449,107
363.00 SERVICES	6,831,527.12	6,854,697.45	1.38	94,435
364.00 METERS	289,570.95	289,570.95	5.29	15,318
371.30 PUMPING EQUIPMENT - PUMPING	4,701,037.60	4,701,037.60	4.79	225,180
391.00 TRANSPORTATION EQUIPMENT	68,117.42	68,117.42	0.00	0
394.00 LABORATORY EQUIPMENT	40,789.79	40,789.79	4.00 **	1,632
395.00 POWER OPERATED EQUIPMENT	1,249.31	1,249.31	6.00	75
396.00 COMMUNICATION EQUIPMENT - GENERAL	28,980.85	28,980.85	6.67 **	1,933
397.00 MISCELLANEOUS EQUIPMENT	12,557.09	9,936.01	4.00 **	472
<b>TOTAL PLANT IN SERVICE</b>	<b>49,903,843.10</b>	<b>55,338,121.35</b>		<b>924,443</b>

\* ANNUAL ACCRUAL AMOUNT BASED ON MONTHLY AVERAGES

\*\* ACCRUAL RATE BASED ON AMORTIZATION PERIOD

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

TABLE 4. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

ACCOUNT (1)	2018			2019			2020			2021			2022			NET SALVAGE (12)*	SALVAGE ACCURAL (13)=(12)/5
	GROSS SALVAGE (2)	COST OF REMOVAL (3)	+	GROSS SALVAGE (4)	COST OF REMOVAL (5)	+	GROSS SALVAGE (6)	COST OF REMOVAL (7)	+	GROSS SALVAGE (8)	COST OF REMOVAL (9)	+	GROSS SALVAGE (10)	COST OF REMOVAL (11)	=		
361.00											195.16			2,466.46		(2,661.62)	(532)
363.00											140.86			181.54		(322.40)	(64)
371.30											1,618.57			539.52		(2,158.09)	(432)
<b>TOTAL</b>	<b>-</b>	<b>-</b>	<b>+</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,954.59</b>	<b>-</b>	<b>-</b>	<b>3,187.52</b>	<b>=</b>	<b>(5,142.11)</b>	<b>(1,028)</b>

\* COLUMN (12) EQUALS THE SUMMATION OF COLUMNS (2) THROUGH (11).

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## PART II. DETAILED DEPRECIATION CALCULATIONS

**CUMULATIVE DEPRECIATED ORIGINAL COST**

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	PCT OF COL 4 TOTAL (6)
1960	2,917,040	2,437,627	479,413	479,413	1.9
1963	16,379,071	11,207,987	5,171,084	5,650,497	22.7
1970	5,878,626	3,701,387	2,177,239	7,827,737	31.5
1971	6,027,325	4,402,662	1,624,663	9,452,400	38.0
1975	3,324,349	2,115,800	1,208,549	10,660,949	42.8
1978	314,439	174,683	139,756	10,800,705	43.4
1979	460,407	251,948	208,459	11,009,164	44.2
1980	991,099	529,962	461,137	11,470,301	46.1
1981	91,686	48,247	43,439	11,513,739	46.3
1983	161,692	81,628	80,064	11,593,803	46.6
1985	588,366	323,804	264,562	11,858,365	47.7
1986	829,750	393,058	436,692	12,295,058	49.4
1990	778,253	383,066	395,187	12,690,245	51.0
1993	126,736	50,402	76,334	12,766,579	51.3
1994	1,211,506	569,565	641,941	13,408,520	53.9
1996	4,040,162	2,413,981	1,626,181	15,034,701	60.4
1999	104,683	78,789	25,894	15,060,594	60.5
2000	426,550	152,021	274,529	15,335,123	61.6
2001	6,755	4,906	1,849	15,336,972	61.6
2003	423,517	120,719	302,798	15,639,770	62.9
2004	1,329	1,107	222	15,639,992	62.9
2005	28,654	21,557	7,097	15,647,089	62.9
2006	202,202	55,182	147,020	15,794,109	63.5
2007	1,204,380	286,091	918,289	16,712,398	67.2
2008	2,148	1,406	742	16,713,140	67.2
2009	167,231	44,083	123,148	16,836,288	67.7
2010	28,527	7,486	21,041	16,857,328	67.7
2011	16,187	6,269	9,918	16,867,247	67.8
2012	1,768,182	454,849	1,313,333	18,180,579	73.1
2013	19,452	6,710	12,742	18,193,321	73.1
2014	28,766	10,192	18,574	18,211,895	73.2
2015	33,236	9,865	23,371	18,235,266	73.3
2016	12,919	3,474	9,445	18,244,712	73.3
2018	22,417	4,637	17,780	18,262,492	73.4
2021	639,098	34,599	604,499	18,866,991	75.8
2022	4,613,655	61,638	4,552,017	23,419,008	94.1
2023	1,467,726	3,222	1,464,504	24,883,511	100.0
SUBTOTAL	55,338,121	30,454,610	24,883,511		
NONDEPRECIABLE	340,711				
TOTAL	55,678,832	30,454,610	24,883,511		

## UTILITY PLANT IN SERVICE

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 354.3 STRUCTURES AND IMPROVEMENTS - PUMPING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 60-S1						
NET SALVAGE PERCENT.. 0						
1960	2,271,711.28	1,796,015	1,881,304	390,407	16.62	23,490
1975	779,114.04	539,459	565,077	214,037	21.21	10,091
1994	440,663.71	219,186	229,595	211,069	29.05	7,266
2012	1,115,572.99	242,302	253,808	861,765	38.75	22,239
	4,607,062.02	2,796,962	2,929,784	1,677,278		63,086
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 26.6 1.37						



AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 355.3 POWER GENERATING EQUIPMENT - PUMPING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 25-R2.5						
NET SALVAGE PERCENT.. 0						
1960	264,951.85	264,952	264,952			
1975	102,167.54	102,168	102,168			
1985	19,919.30	18,874	17,196	2,723	2.09	1,303
1994	51,095.13	44,657	40,687	10,408	4.14	2,514
1996	410,562.12	348,157	317,202	93,360	4.79	19,491
2007	40,884.01	24,792	22,588	18,296	10.22	1,790
2009	35,958.59	19,630	17,885	18,074	11.44	1,580
2012	137,803.93	61,474	56,008	81,796	13.35	6,127
	1,063,342.47	884,704	838,686	224,657		32,805
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.8						3.09

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 360 COLLECTION MAINS - FORCE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R2.5						
NET SALVAGE PERCENT.. 0						
1963	1,420,455.97	1,018,467	966,803	453,653	23.58	19,239
1975	646,731.85	395,283	375,232	271,500	30.38	8,937
1994	178,664.79	72,431	68,756	109,909	42.17	2,606
2012	176,608.62	29,423	27,931	148,678	53.77	2,765
	2,422,461.23	1,515,604	1,438,722	983,739		33,547
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						29.3 1.38

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 361 COLLECTION MAINS - GRAVITY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R2.5						
NET SALVAGE PERCENT.. 0						
1963	14,958,615.00	10,725,327	10,241,184	4,717,431	23.58	200,061
1970	5,878,626.41	3,876,366	3,701,387	2,177,239	27.25	79,899
1975	1,634,502.48	999,008	953,913	680,589	30.38	22,403
1978	314,439.23	182,941	174,683	139,756	32.17	4,344
1979	460,406.97	263,859	251,948	208,459	32.59	6,396
1980	991,098.57	555,015	529,962	461,137	33.59	13,728
1981	91,685.58	50,528	48,247	43,439	34.01	1,277
1983	161,692.00	85,487	81,628	80,064	35.44	2,259
1985	403,978.26	205,867	196,574	207,404	36.33	5,709
1986	829,750.48	411,639	393,058	436,692	37.33	11,698
1993	126,735.84	52,785	50,402	76,334	41.68	1,831
1994	457,785.71	185,586	177,209	280,577	42.17	6,653
1996	219,467.66	83,354	79,591	139,877	43.68	3,202
2000	391,782.20	129,249	123,415	268,367	46.21	5,808
2003	418,921.43	121,613	116,123	302,798	48.28	6,272
2006	187,408.21	47,077	44,952	142,456	49.92	2,854
2007	1,161,195.00	274,274	261,893	899,302	50.92	17,661
2009	131,272.06	27,436	26,198	105,074	52.04	2,019
2010	21,798.53	4,253	4,061	17,738	52.61	337
2012	91,031.17	15,166	14,481	76,550	53.77	1,424
2021	355,891.92	10,641	10,161	345,731	56.73	6,094
2022	4,501,065.23	60,314	57,591	4,443,474	55.43	80,164
2023	1,461,726.31	3,362	3,210	1,458,516	53.64	27,191
	35,250,876.25	18,371,147	17,541,871	17,709,005		509,284
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 34.8						1.44

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 363 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R4						
NET SALVAGE PERCENT.. 0						
1971	6,027,325.07	4,335,455	4,402,662	1,624,663	20.19	80,469
1990	778,253.33	377,219	383,066	395,187	34.82	11,349
2021	18,839.33	501	509	18,330	64.04	286
2022	24,279.73	277	281	23,999	65.04	369
2023	5,999.99	11	11	5,989	65.66	91
	6,854,697.45	4,713,463	4,786,529	2,068,168		92,564
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 22.3						1.35

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 364 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 25-S2.5						
NET SALVAGE PERCENT.. 0						
1960	31,054.84	31,055	31,055			
1975	23,151.99	22,995	21,509	1,643	0.33	1,643
1985	7,424.33	7,035	6,580	844	2.09	404
1994	15,379.54	13,486	12,615	2,765	4.04	684
1996	159,924.93	136,464	127,645	32,280	4.60	7,017
2001	6,754.59	5,245	4,906	1,849	6.26	295
2006	6,109.96	4,033	3,772	2,338	8.63	271
2010	5,684.19	3,030	2,834	2,850	11.17	255
2012	34,086.58	15,646	14,636	19,451	12.67	1,535
	289,570.95	238,989	225,552	64,019		12,104
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.3						4.18

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 371.3 PUMPING EQUIPMENT - PUMPING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 25-L0.5						
NET SALVAGE PERCENT.. 0						
1960	349,322.35	322,215	260,316	89,006	5.28	16,857
1975	138,681.26	121,180	97,901	40,780	6.90	5,910
1985	157,044.26	128,054	103,454	53,590	8.55	6,268
1994	67,916.97	50,381	40,703	27,214	10.01	2,719
1996	3,250,207.22	2,338,849	1,889,543	1,360,664	10.42	130,582
1999	57,876.89	39,588	31,983	25,894	10.97	2,360
2000	13,455.89	9,030	7,295	6,161	11.15	553
2005	3,370.08	2,016	1,629	1,741	11.92	146
2011	16,187.12	7,760	6,269	9,918	12.76	777
2012	182,688.45	83,068	67,110	115,578	12.89	8,966
2013	19,451.81	8,306	6,710	12,742	13.08	974
2014	24,835.05	9,887	7,988	16,847	13.23	1,273
2015	33,236.20	12,211	9,865	23,371	13.35	1,751
2016	12,919.26	4,300	3,474	9,445	13.53	698
2018	22,416.84	5,739	4,637	17,780	13.80	1,288
2021	263,507.09	29,513	23,843	239,664	13.88	17,267
2022	87,920.86	4,642	3,750	84,170	13.45	6,258

4,701,037.60	3,176,739	2,566,470	2,134,567		204,647
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.4					4.35

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 391 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
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SURVIVOR CURVE.. IOWA 15-L3  
NET SALVAGE PERCENT.. 0

1999	46,805.62	42,574	46,806			
2000	21,311.80	19,151	21,311			
	68,117.42	61,725	68,117			

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 0.0    0.00

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 394 LABORATORY EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
2004	1,329.15	997	1,107	222	6.25	36
2005	25,283.61	17,951	19,928	5,356	7.25	739
2006	8,683.64	5,818	6,458	2,226	8.25	270
2007	2,301.36	1,450	1,610	691	9.25	75
2008	2,148.16	1,267	1,406	742	10.25	72
2010	1,043.87	532	591	453	12.25	37
	40,789.79	28,015	31,100	9,690		1,229
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						7.9 3.01



AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 395 POWER OPERATED EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 20-L2.5						
NET SALVAGE PERCENT.. 0						
2021	860.06	90	86	774	15.03	51
2022	389.25	17	16	373	15.94	23
	1,249.31	107	102	1,147		74
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.5 5.92						

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 396 COMMUNICATION EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2012	28,980.85	20,770	19,905	9,076	4.25	2,136
	28,980.85	20,770	19,905	9,076		2,136
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						4.2 7.37

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

ACCOUNT 397 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL  
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
2003	4,595.70	3,631	4,596			
2012	1,409.31	606	971	438	14.25	31
2014	3,931.00	1,376	2,204	1,727	16.25	106
	9,936.01	5,613	7,771	2,165		137
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.8 1.38						

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## **PART III. EXPERIENCED AND ESTIMATED NET SALVAGE**

AQUA PENNSYLVANIA, INC.  
EAST NORRITON OPERATIONS

EXPERIENCED AND ESTIMATED RETIREMENTS BY ACCOUNT AND ASSOCIATED  
COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2018 TRANSACTION YEAR				
2019 TRANSACTION YEAR				
2020 TRANSACTION YEAR				
2021 TRANSACTION YEAR				
361.00		195.16		195.16-
363.00		140.86		140.86-
371.30	38,699.66	1,618.57		1,618.57-
	38,699.66	1,954.59		1,954.59-
2022 TRANSACTION YEAR				
361.00		2,466.46		2,466.46-
363.00		181.54		181.54-
371.30	12,899.89	539.52		539.52-
	12,899.89	3,187.52		3,187.52-
TOTAL	51,599.55	5,142.11		5,142.11-